Dionysiac Machines: videogames and the triumph of the simulacra

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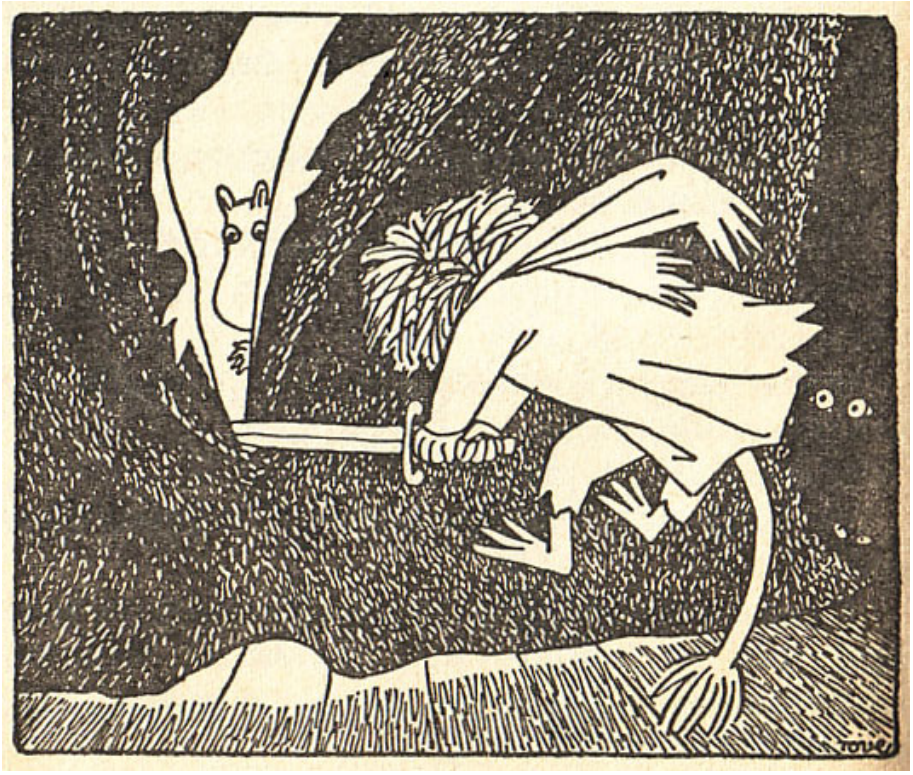
Abstract / This article rethinks concepts of the simulational and the simulacral for popular digital culture. It plays concepts of the modern world as hyperreal against the more modest, pragmatic, but vital, insights of game studies into the literally simulational nature of computer media and videogames. Through a reading of Deleuze's essay Platonism and the Simulacrum, taking the GameBoy Advance game Advance Wars 2 as a case study, and proposing the significance of automata, it suggests ways of thinking about the artificial and simulacral character of contemporary technoculture and its devices, not as the implosion of reality, but of its production.

Keywords /automata / computer games / cyberculture / Deleuze / game studies / simulacra / simulation / technoculture / videogames

> Plato, by dint of inquiring in the direction of the simulacrum, discovers, in the flash of an instant as he leans over its abyss, that the simulacrum is not simply a false copy, but that it calls into question the very notions of the copy . . . and of the model. (Deleuze, 1983: 47)



> Whomper hunted for the marmalade. 'Perhaps jam will do just as well', he said and tried to take the lid off a jam-pot. 'Painted plaster,' stated the Mymble's daughter. She took an apple and chewed at it. 'Wood,' she said. Little My laughed. But Whomper felt worried. All the things around him were false. Their pretty colours were a sham, and everything he touched was made of paper or wood or plaster. The golden crowns weren't nice and heavy, and the flowers were paper flowers. The fiddles had no strings and the boxes no bottoms, and the books couldn't even be opened. Troubled in his honest heart, Whomper pondered over the meaning of it all, but he couldn't find any solution. 'I wish I were just a tiny bit more clever', he thought. 'Or a few weeks older'. 'I like it here', said the Mymble's daughter. 'It's just as if nothing really mattered here'. 'Does anything matter anywhere?' asked Little My. 'No', her sister replied happily. 'Don't ask such silly questions'. (Tove Jansson, Moominsummer Madness, 1955: 43)

The Moomins and their houseguests and acquaintances (of various species), caught up in a giant flood, have taken refuge in a floating building. It takes them some time to realise that their strange new environment is a theatre, and that the objects around them – familiar in appearance, yet counterfeit and different in essence – are theatrical props. The Whomper in particular is confused and anxious over the nature of his new environment and its unsettling objects.

Introduction: Simulation Versus Representation /

The Whomper's worry, and his attacks on the screens that seem to be hiding a more familiar, more authentic world from him, are emblematic of cultural and critical theory when faced with the manufactured, the commodified and the artificial in modern culture. Nowhere is this anxiety more keenly felt than in the face of the simulational and simulacral character of post-War culture in the developed world – a culture, it is claimed, that is increasingly derealized by the screens of the mass media, the seductions and veilings of commodification, and (more recently) the virtualizations of digital culture. If only we were a little more clever (or a few weeks older), or had some incisive instrument of theory, we could cut through the objects, screens and flows of images around us and select between the truthful and the fake, the authentic and the commodified, the real and the ideological.

In this essay I want to rethink the character and implications of the simulational and the simulacral for popular digital culture. By playing recent concepts of the modern world as simulational or hyperreal against the more modest, pragmatic, but vital, insights of game studies into the literally simulational nature of computer and videogames' technological, media, aesthetic and ludic form, I hope to suggest ways of thinking about the reality of the artificial and simulacral character of contemporary lived technoculture and its devices, and to question, like the Mymble's daughter, 'things that matter'.

A number of commentators on, and scholars of, contemporary cultural change have noted a shift from 'representation' to 'simulation' as dominant modes of the organization of cultural objects and their significatory relationships to the world. For the purposes of this essay I will identify three pertinent areas of research. The first considers the relationship (or lack, or loss, of relationship) between media simulation and the real world. This approach draws on theories that identify in recent decades profound cultural, aesthetic, economic and social shifts in the developed world. Approaches and positions within this broad trend vary considerably, but they generally share the assumption that the emergence in the post-War period of a consumption-led economy has driven a culture which is dominated and colonized by the mass media and commodification. The rise of this commercialized, mediated culture brings with it profound anxieties about how people might know, and act in, the world. The sheer proliferation of television screens, computer networks, theme parks and shopping centres, and the saturation of everyday life by spectacular images so thoroughly mediated and processed that any connection with a 'real world' seems lost, adds up to a simulated world: a hyperreality where the artificial is experienced as real. Representation, the relationship (however mediated) between the real world and its referents in the images and narratives of popular media and art, withers away.

For Jean Baudrillard, simulacra are signs that can no longer be exchanged with 'real' elements, but only with other signs within the system. This loss of the real is extended to the contemporary world at large, as reality becomes hyperreality (1983). Though controversial, Baudrillard's versions of simulation and simulacra have proved very influential on theories and analysis of post-War popular and visual culture. The nature of the ascendency of this order of simulation over that of representation has been posited as being of fundamental importance to questions of the future of human political and cultural agency (1). Jameson works with

Baudrillard's residual Marxism to present the contemporary world as one in which all zones of culture and everyday life are subsumed by the commodifying reach of consumer capitalism and its spectacular media:

> a whole historically original consumers' appetite for a world transformed into sheer images of itself and for pseudo-events and 'spectacles' . . . It is for such objects that we reserve Plato's concept of the 'simulacrum', the identical copy for which no original has ever existed. Appropriately enough, the culture of the simulacrum comes to life in a society where exchange value has been generalized to the point at which the very memory of use value is effaced, a society of which Guy Debord has observed, in an extraordinary phrase, that in it 'the image has become the final form of commodity reification . . .'. (Jameson, 1991: 18)

Similarly, for Sean Cubitt 'the theory of simulation is a theory about how our images, our communications and our media have usurped the role of reality, and a history of how reality fades' (Cubitt, 2001: 1). As reality fades, the materiality of the world around us becomes unsteady, 'the objects of consumption are unreal: they are meanings and appearances, style and fashion, the unnecessary and the highly processed' (Cubitt, 2001: 5).

> It becomes clear then what is at stake for these theorists: any sense of political agency or progressive knowledge is lost in this seductive, consumerist, apocalypse. The relationship between the real and the mediated, the artificial and the natural, implode. It is also clear how the technological sophistication and seductive/immersive and commercial nature of videogames might be seen as a particularly vivid symptom of this postmodernist condition (Darley, 2000).1

The second approach is less concerned with the implications of the simulational as marker of a new epoch in culture, history or economics, and more with the detail and texture of specific computer- and network-based simulational technologies and the interactions and experiences they bring into being. Studies of cyberculture in the late 1980s and 1990s described the new simulational machines (Rheingold, 1991; Woolley, 1992; Turkle, 1996). There are significant overlaps between these two approaches; much of these 'optimistic' cybercultural studies draws on postmodernist concepts and frameworks, whereas other theorists of technocultural change and digital culture echo their 'pessimist' diagnosis (e.g. Robins and Webster, 1999).

Thirdly, in recent years, game studies has adopted analytical, formal and descriptive approaches to the specificity of computer simulation software. 'Simulation' here refers to the particular character and operations of games, particularly computer and videogames, as processual, algorithmic media. Distinctions are made between simulation as a media form that models dynamic, spatio-temporal and complex relationships and systems (for example, of urban development and economics in SimCity) and the narrative or representational basis of other, longer-established, media (literature, film, television, etc.).

Ostensibly, these two positions have quite different objects of concern: the computer simulation of interest to game studies is not the hyperrealism of Baudrillard's simulation. Game studies is more modest – keen to establish the

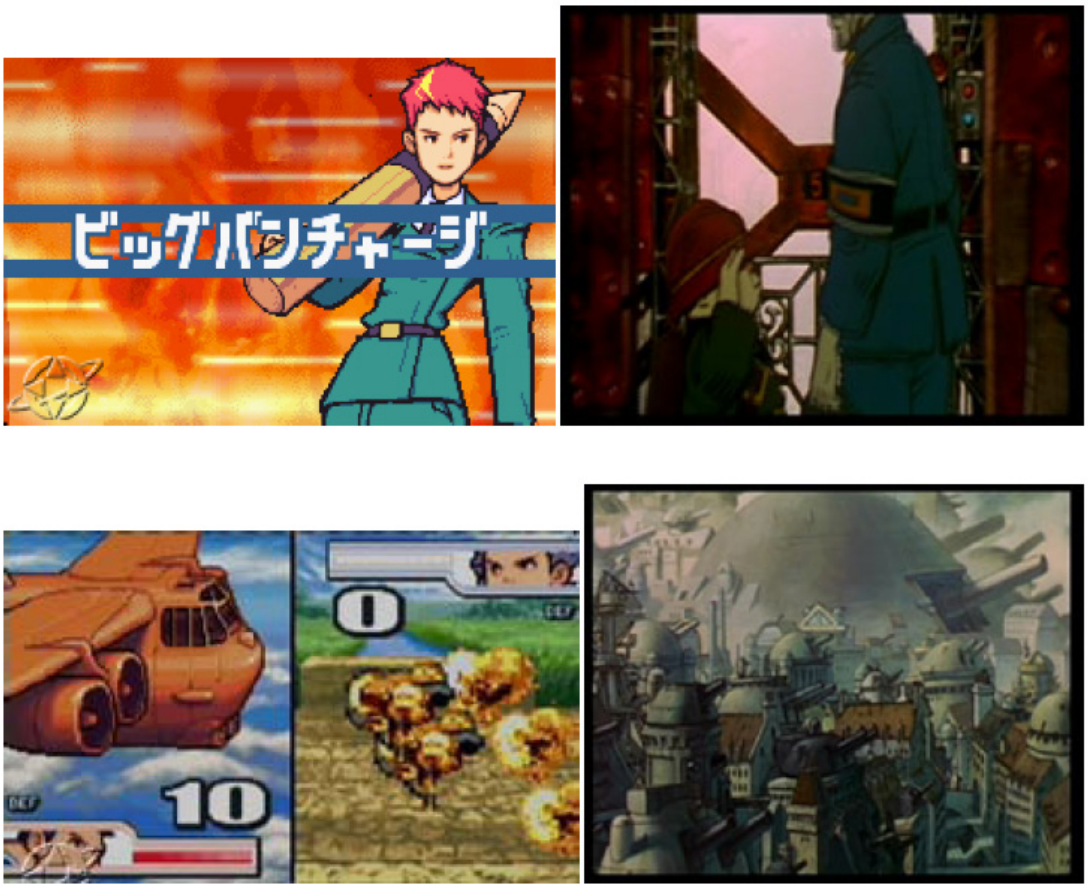
difference of games and simulations from narrative or representational media forms, rather than claiming simulation as an overarching model of contemporary culture.

However, this article will argue that the two do (in some ways) and should (in others) inform one another. In broad terms each establishes a key distinction between notions of simulation and representation. Each, to a greater or lesser extent, asserts the ascendency of simulation over the established certainties and familiarities of representation or mimesis. However, despite their claims or fears about emergent simulational cultures, each (more or less intentionally) sustains the distinction between the simulational and the representational, between copies and originals. I will suggest that Deleuze's essay Platonism and the Simulacrum offers an alternative way of configuring the relationships between representation and simulation – one that has profound implications for the study of videogame culture in particular and popular technoculture at large (Deleuze, 1983).

This article is neither a comprehensive survey of game studies, nor a rigorous interpretation of Deleuze. It will use components of each, sometimes twisted or forced a little to mesh together, to open up each to the implications of the ascendancy of the simulacra in contemporary game culture and technoculture. Against each it will, after Little My, the Mymble's daughter (and Deleuze), look for the reality of, and pleasure in, the artificial.

Simulation Versus Representation in Game Studies /

Game studies articulates quite different senses of the term simulation from the critical positions sketched out above. A brief comparison between the GameBoy Advance game *Advance Wars 2* and a visually similar screen text, the animated film *Cannon Fodder* (Otomo, 1995), highlights some of the key concerns and analytical approaches of game studies in relation to notions of simulation. Radical differences in the operations and meanings of videogames, and the relative analytical relevance of what they 'represent', necessitate alternative modes of description, analysis and critique. The fictional framing of each screen object's dynamic is very similar. In *Advance Wars 2*, 'Wars World' and its inhabitants exist only for war – every square on its grid territories is a battlefield – whilst *Cannon Fodder* presents a future city constructed entirely for war against an unknown and remote enemy, from the buildings bristling with artillery, to its uniformed citizens and domestic spaces constructed from discarded ordnance. Both game and film are Japanese, and they share marked stylistic characteristics: each has a hand-drawn, rather than photo-realist or hyperrealist aesthetic, and each pictures its weaponry and characters as futurist versions of World War II styles and technologies.



Advance Wars 2 (left), *Cannon Fodder* (right)

However, their differences are marked. *Cannon Fodder* is an anti-war parable, its tone that of pathos. As with any screen narrative, its meanings are open to interpretation, and a large part of its attraction is the quality and fluidity of its animation. But it is safe to assume that many viewers will see it as a didactic film, an allegory of the inhumanity and senselessness of war. No such pathos is evident in the unfolding events in 'Wars World' though. Here, whilst the diegetic details of weaponry and characterization on the one hand, and the overall military theme and motive on the other, are important aspects of the appeal of the game, they do not 'represent' as such – whatever significatory or ideological meaning could be read into the game's images and scenarios, they play a secondary (and, to a certain degree, arbitrary) role to that of the abstractions of gameplay. That is to say that whilst Advance Wars 2 as an organization of images, sounds and characters is as open to ideological critique as any media text/artefact, such analysis of its representational operations hardly touches on its reality as a game or a playful experience:

> unlike traditional media, video games are not just based on representation but on an alternative semiotical structure known as simulation. Even if simulations and narrative do share some common elements – character, settings, events – their mechanics are essentially different. More importantly, they also offer distinct rhetorical possibilities (Frasca, 2003: 222).

Gonzalo Frasca's simulations are media objects that model complex systems. They

are not limited to computer media (predigital machines and toys can simulate) but come into their own with the processing affordances of computing. This emphasis on the simulational character of computer and videogames has proven to be productive in the task of establishing the distinctiveness of the videogame as a hybrid cultural form, emphasizing features, structures and operations inherited from both its computer science and board game forebears over other sides of its family – notably its media ancestors (literature, cinema, television).

There appears to be a fundamental distinction here between these two discourses of simulation, or at least a difference of scale so great that they are incompatible – analogous perhaps to the gap between ludological moomins studying the nature of the simulated objects under their noses and in their hands, and a theoretical attention to the apocalyptic flood which has swept away and obliterated their familiar environment. To analyse a videogame as a computer simulation is to understand it as an instance in everyday life, rather than as an all-encompassing hyperreality. Moreover, the screen metaphors of the postmodernist simulation carry little sense of the dynamic and procedural characteristics of computer simulation. Studied as such, computer simulations can be seen not only as the visual presentation of artificial realities (as, again, the screens of hyperreality suggest) but the generation of dynamic systems and economies, often with (and always in videogames) an assumption of interactive engagement written into the models and processes.

Plato and Game Studies: Separating Copies and Simulacra /

The roots of the distinction between artefacts that accurately correspond with or mediate the real world and those that are illusory, false – that dissemble and delude – run deep. Deleuze interrogates Plato's division of, or selection between, authentic copies or resemblances of original ideas or models, and the perversions of simulacra (false or phantasmic copies) which may superficially capture the external appearance of the original, but not its internal essence:

> The distinction moves between two sorts of images. Copies are secondhand possessors, well-grounded claimants, authorized by resemblance. Simulacra are like false claimants, built on a dissimilitude, implying a perversion, an essential turning away. It is in this sense that Plato divides the domain of the image-idols in two: on the one hand the iconic copies (likenesses), on the other the phantasmic simulacra (semblances). We can thus better define the whole of the Platonic motive – it is a matter of choosing claimants, of distinguishing the good from the false copies, or even more, the always well-founded copies from the simulacra, ever corrupted by dissemblance. It is a question of insuring the triumph of the copies over the simulacra, of repressing the simulacra. (Deleuze, 1983: 47–48)

The resonances with modern culture are clear. Electronic and digital screens, it is often argued in both academic and popular criticism, capture the surfaces of objects and phenomena, but their essence, their reality, their intangible and invisible operations (economic, social, political) are jettisoned. Indeed, the spectacular imagery of digital imaging does not so much copy the surface appearances as copy copies: the lens flare and motion blur generated in CGI special effects are copies of analogue cinematography's surface effects.

Yet Deleuze comes not to bury the simulacra, but rather to raise them up from the depths in which Platonism would keep them chained (Deleuze, 1983: 48). The reasons for this, and its implications, will be picked up later in the article. For now, I would like to note that part of his reasoning is a critique of the 'will to select', to sort out, to divide up into good and bad, originals and copies, good copies and bad simulacra. Whilst Whomper's attempts to make sense of sham colours and bottomless boxes were driven by anxiety or a desire for understanding, in Platonism (and Deleuze surely intends us to reflect on contemporary cultural critique as well) there is a moral or legislative dynamic to this will to select:

> And always there is the selection from among claimants, the exclusion of the eccentric and divergent, and this in the name of a superior finality, an essential reality, or even a meaning to history. (Deleuze, 1983: 51)

But the simulations described and celebrated by game studies are not completely the simulacra condemned by Plato and celebrated by Deleuze. Rather, game simulations are of interest to some game scholars precisely because they are seen as more accurately or completely resemble their source. They capture something of the complex temporal, spatial and relational dynamics and forces – the essence – of subsystems of the real world, 'representing flux and change' and 'replacing the stasis of two- or three-dimensional spatial models with a map that shifts over time to reflect change' (Friedman, 1995). For Frasca, 'to simulate is to model a (source) system through a different system which maintains to somebody some of the behaviors of the original system'. The key term here is 'behaviour'. Simulation does not simply retain the – generally audiovisual – characteristics of the object, but it also includes a model of its behaviours. This model reacts to certain stimuli (input data, pushing buttons, joystick movements), according to a set of conditions (Frasca, 2003: 223).

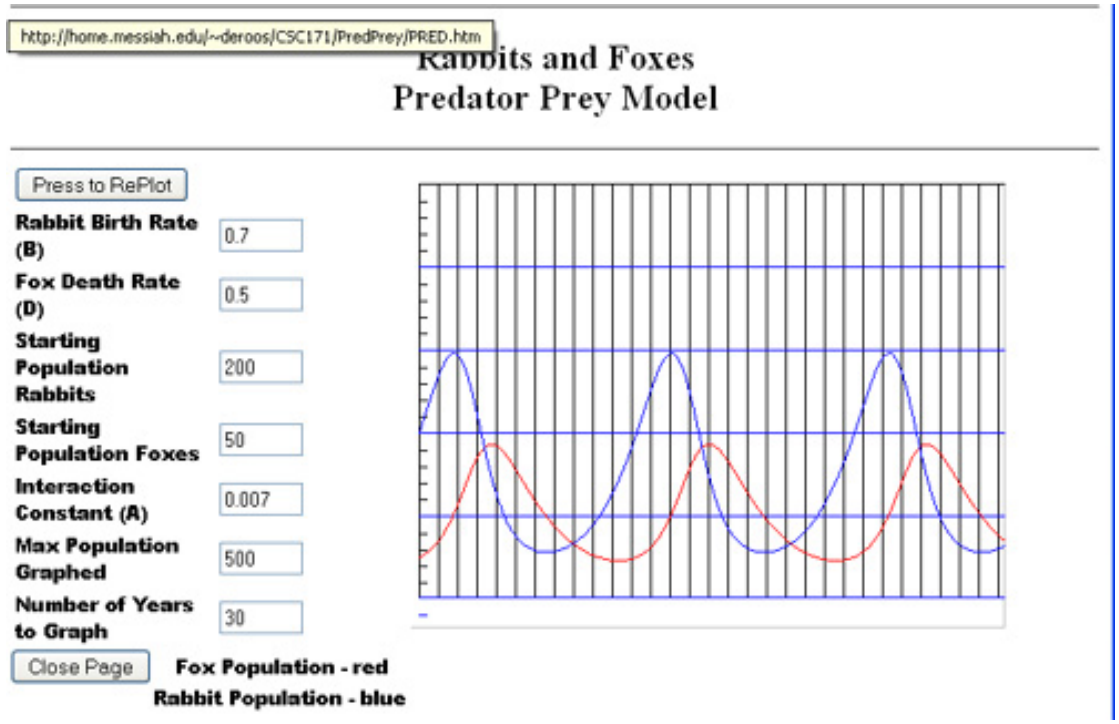
However, even in this valorization of the computer simulation, there is an underlying selection among orders of copies even within the videogame form itself. The (phantasmic) photorealist aesthetic of game interfaces is not of concern; it is the game system that is the good copy of aspects of a dynamic world. Indeed an implicit continuity, even identity, is sometimes established between source and simulation: a spectrum of proximity to, and abstraction from, the source system, one end of which is the 'actual 100 percent implementation of the referent system' (Järvinen, 2003). The dissembling of the simulacrum is so effective here that it goes beyond presenting itself as a good copy – it claims the possibility of being the original.

Game studies analyses of game simulations as cultural phenomena have thus tended to follow dominant aspects of media and literary studies in their development of, on the one hand, an ideology critique and, on the other, programmes for both subverting popular videogames' ideological operations and a cultural/production activism in which alternative economic or political views are modelled and played with. Distinctions made here between simulation and representation might not be as radical as they first appear, as they operate mainly at the level of medium specificity: games might be a different form of media to literature or film, but all are copies of one sort or another. These critiques are attentive to the emergent and productive possibilities of computer simulation, but they are still, in Deleuze's terms, good copies, and hence bound up in the Platonist motive of 'insuring the triumph of the copies over the simulacra'.

Real Phantasms /

I would argue that the 'realism' of computer simulations is itself largely illusory, or rather that their correspondence to source systems is of a different order. We could instead think of simulations as being generative of a range of possible phenomena, events or trajectories: as tools for the imagination – a prosthetic imagination – producing speculative, not definitive, knowledge. Simulations in this sense are virtual in one precise sense of that term: 'objects and states that exist but are not tangible, not "concrete", capacities to be actualised' (Shields, 2006: 284–85).

Defining computer simulations (whether videogames or more instrumental simulations of economic or weather systems) as modelling the essence of actual world phenomena, processes and systems is a mistake rooted in the persistent tendency to view artefacts as representational or mimetic.



For example, I remember playing with a version of the *Foxes and Rabbits* simulation (sometimes known as the *Predator-Prey* simulation) with my friend on his BBC microcomputer as teenagers in the early 1980s. In monochrome text and a sine-wave graph, the simulation plotted the possible outcomes of a simple algorithmic relationship between the size of two populations: 'rabbits' and 'foxes'. With a high rabbit population as food, the fox population rose, whilst the rabbit population fell accordingly (as they were eaten). A declining rabbit population meant restrictions on food supply for the foxes, and so their population began to fall, and so on. The graph plotted the graceful differentials of artificial life and death. We tried a number of variables – including initial population numbers, birth rates of the prey, death rates of the predators – to see how the resulting graphs varied. But what was being simulated here? As a modelling of an actual ecology, this was evidently limited – the boundless complexity of the natural world was reduced to a relationship between the population size of two species in a static or empty one. It was also clear that the two species are largely arbitrary and any two types of entity could be substituted, as long as one

feeds on the other (lions and zebras, slugs and lettuces, police and thieves, etc).

On the one hand, this supports game studies ludological insights into the more or less arbitrary relationship between the operations of the game/simulation and the representational operations of both its presentation and its interpretation (2). On the other hand it suggests that not only do many videogames have little or no mimetic relationship to the actual world (and for those that do, this mimetic function is not their key or salient aspect), but rather that videogames both model and generate new, virtual worlds. Simulations are, in this sense, real. They exist, and are experienced, as systems or virtual worlds, and as the technologies and technocultural events by which they are generated, regardless of any ostensible simulation of any subsystem of the world in which they exist.

To develop this model of the videogame as a simulacrum – as at once a copy without an original, and as generative of the real – let us return to Wars World. It is evident that even games whose appeal is more closely connected with the play of anthropomorphic characters on their screens must be – to facilitate play – explicit about the status of these characters as being simulacral: as mathematical potentialities and capabilities. The Commanding Officer Sami, for example, functions as a kind of frame-avatar – i.e. the player does not see her on the screen in the battles as they might in an adventure game; nor does the player 'see through her eyes' as in a first-person shooter. Rather, she appears in comic-strip-style dialogues at the beginning and end of each battle (or 'map'); a fictional frame to set the scene and the tone. However, Sami's character and 'personality' – as frame-avatar – also has a strictly simulational function. Her personality traits are given a quantitative value – the capabilities and strengths of her troops. Sami/Sami's army is/are a particular set of mathematical augmentations to the default movements and strengths of units:

> Sami: Her foot soldiers have superior firepower and can capture properties in reduced time. Her transport units have increased movement ranges. However, she's weak in direct combat against non-infantry units.
>
> DOUBLE TIME: Infantry and mech units receive a +2 movement bonus of +1 space. Firepower increases slightly.
>
> VICTORY MARCH: Foot soldiers receive a +2 movement bonus and a firepower boost, and they can capture a property in one turn even if not at full HP ('Advance Wars 2' Instruction Manual, Nintendo, 2003: 31).

Thus Sami is a representational-simulational hybrid. Her personality is the metonym of her troops, both figuratively and instrumentally, and – for the player – strategically.

The space-time of the gameworld interface is similarly simulacral: presented as a theatre of war, it is at once grid-territory and map – both battlefield and control room sandbox or pin-chart. In Wars World, NPCs (non-player characters) instruct the player not to defend a battlefield or country, but to 'play the map'. This terminology is common, particularly in videogames (such as Advance Wars 2 but also first-person shooters such as Counterstrike) in which the player can modify or create these map-worlds. Like Baudrillard's inversion of Borges's retelling of Lewis Carroll's story in

which a map is drawn so detailed that it eventually covers and replaces the land it was supposed to represent, the map is both the (hyper)real territory and the marker of the absence of a real territory.

Advance Wars 2: a map/battlefield

Thus the recognition of the attenuation of the representational in videogames suggests echoes of the postmodernist simulacrum: the copy of a copy without an original. It is sometimes acknowledged in game studies that a gameworld might simulate a system that doesn't exist (for instance, a fantasy world) but the theoretical and aesthetic implications of this key simulacral move have yet to be fully grasped.

Every Extend

It should be noted that popular videogame criticism may be more perceptive in this regard. A recent editorial in the British videogame magazine *Edge* illustrates the salience of this approach to simulation in popular games discourse. In a response to the non-figural game *Every Extend*, *Edge* argues for a shift of critical understanding away from the notion that the videogame-as-simulation replicates the actual world (either through graphic verisimilitude or the modelling of actual world forces), and ends with a statement suffused with a simulacral bliss that the Mymble's daughter might recognize:

> To be classified as realistic, a game doesn't have to exhibit any knowledge of, let alone respect for, how people act, how objects work, how day follows night, how physics (or even 'physics') governs our world. Instead, it just needs to look as close as possible to what a photo of those things would look

> like if they occupied real space . . . the moment games start looking real is when they start limiting their interactions to things we recognise. In the wake of the quest for visual realism comes a swathe of tasks, procedures and dynamics that we do recognise from life: gameplay mechanics which mimic real-world economic or legal systems, for example. Systems of cause and effect and checks and balance . . . But isn't one of the wonders of games that they can model things that don't exist? [The world in Every Extend is given as] something which has no model or corollary in the real world. (Edge, 2005: 35)

I would also argue that game studies might provide distinct ways of extending Deleuze's happy simulacra beyond the realm of images and helping them in their task of '"insinuating" themselves everywhere' (Deleuze, 1983: 48). In unearthing and reanimating disparate theories and studies of play and games – from Huizinga and Caillois, to Bateson, Geertz and Winnicott – game studies shifts these academically neglected phenomena to the centre of the understanding of culture. Previously fixed notions of the solidity and authenticity of religious and judicial ritual, rites of passage, and custom and tradition, are undermined by and through the dissembling, parodic, performative, carnivalesque and excessive generation of the new realities of play and games.

I have focussed on the character of videogames as formal, technical and aesthetic machines, rather than the lived experiences and meanings generated in each particular event of their playing. Game/simulacra function quite differently, mean quite different things, and are different things, in different events. *Foxes and Rabbits* is used in classrooms in the teaching of diverse knowledges, such as programming and ecology, whereas our playing of *Foxes and Rabbits* had little to do with representation; it was not out of any interest in ecological simulation, nor even for its (distinctly limited) pleasures as a game. On the one hand it was played, as was often the case with games on early home computers, primarily as a demonstration of what the computer, the micro-universal machine, a particular kind of automaton, could do. As Steve Woolgar put it, 'the user is encouraged to find in her dealings with the machine an adequate puzzle for the solution which the machine offers' (Woolgar, 1991: 68). On the other hand, it presented a dynamic virtual world, related to other simple ALife entities such as the cellular automata of the *Game of Life* which we had seen running on a Sinclair ZX80 at school. The vulpine, lapine and cellular entities here are vestigial icons, at most cues or analogies to help the player grasp their simulacral character; their charm and fascination is premised on their difference from actual world phenomena and systems, in their complicated and animated artifice.

Simulacra and Automata: Devices that Simulate /

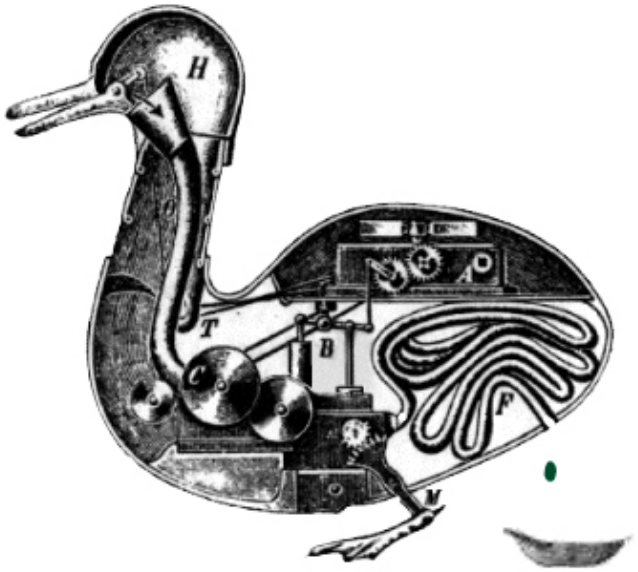
> [Hephaestus] at his bellows, smithying tripods, twenty in all, To stand round the walls of his strong-built palace of bronze, On each at the base, three golden wheels he had set So that, self-impell'd, they could enter the feast of the Gods And again return to their places, a marvel to see. (The Iliad, book XVIII: 283)

Two children, Alex and Jo, playing the last boss battle in Lego Star Wars:

A: It's not fair . . . the computer never falls off does it? J: Of course not – it's

the computer. A: The computer knows where it's going! (21 May 2005)

One more entry to the simulation/simulacra lexicon needs to be made. Though Deleuze's interrogation of Platonist copies seems to hinge on the image, his terminology resonates with the study of another order of artefacts, a study which may help account for the particular creative and chaotic possibilities in contemporary technoculture. He mentions that simulacra are 'devices that simulate' (i.e. simulation here is a process, the simulacrum an artefact). Applying this definition to contemporary technoculture we might note that a device can be an image (for example in heraldry), a deceit (it can refer to the fanciful, the spectacular, the dissembling), or a machine. One root of the terms 'simulation' and 'simulacra' that is rarely picked up on in theories of media, games and cyberculture is the automaton: a machine with both actual and fantastical existence. Automata in general are 'self-moving things', generally taken to mean the artefactual rather than the biological, though the term can encompass animals and humans. Lister et al. trace the concept back to the classical differentiation (in The Iliad) within automata between the simulacrum and the automaton. Automata are devices that move by themselves, with simulacra as a subclass of self-moving devices that simulate other things (humans, ducks, etc.) (Lister et al., 2009: 38-44; 343-381) (3). At the risk of further terminological confusion, I would like to transpose this distinction to fit contemporary technoculture, and posit simulacra (in Deleuze's sense) as the broader class, with automata as a significant order within it. Thus not all simulacra are automata, but all automata are simulacra.

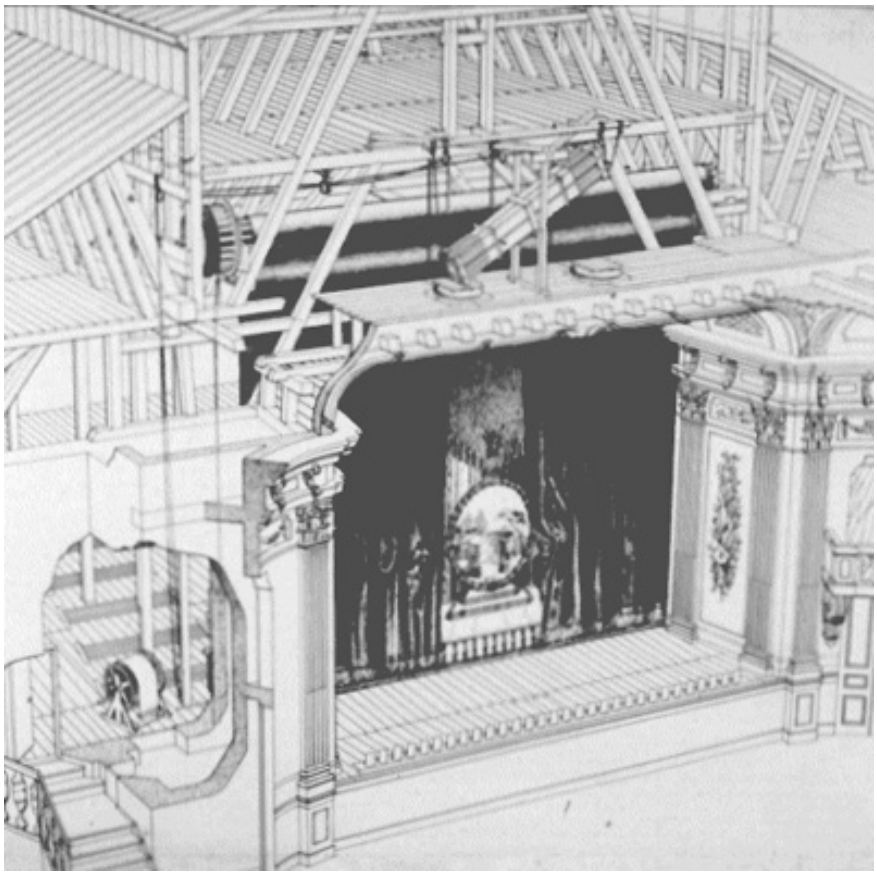


Vaucanson's Duck, c. 1739

Histories of actual and fictional automata tend to focus on anthropomorphic and zoomorphic automata, from Galatea and Pandora, through Vauconson's duck and musicians, to the Golem, Frankenstein's monster and the various Terminators and actual robots. Non-anthropomorphic automata, from the fountains and clepsydras of antiquity to the cellular automata of Artificial Life, tend not to engender the same fascination – they exist at the bottom of the slope up to Mori's uncanny valley.

To study simulacra as technical devices is therefore to shift away from the troubling images and screens of recent media cultural critique, towards actual simulacral machines and their structures and workings in their historical and cultural context. In response to my interest in the *Moominsummer Madness* passage quoted earlier, Jonas Linderoth dug out, and kindly translated, the following account of a pre-digital example of spectacular simulacral technology:

> The designers of the thunder machine had tried hard to achieve a sound as similar to thunder as possible, but had at the same time been aware that their mission was to create an illusion, not a copy which couldn't be separated from the original. The audience at Drottningholm theatre is also expecting an illusion, not a copy. And the audience can only be thrilled by an illusion. A quality test for a simulacrum could be as follows: A simulacrum is good enough if an evaluator experiences a striking similarity but also at the same time a discrepancy between illusion and reality. (Asplund, 2003: 39–40)



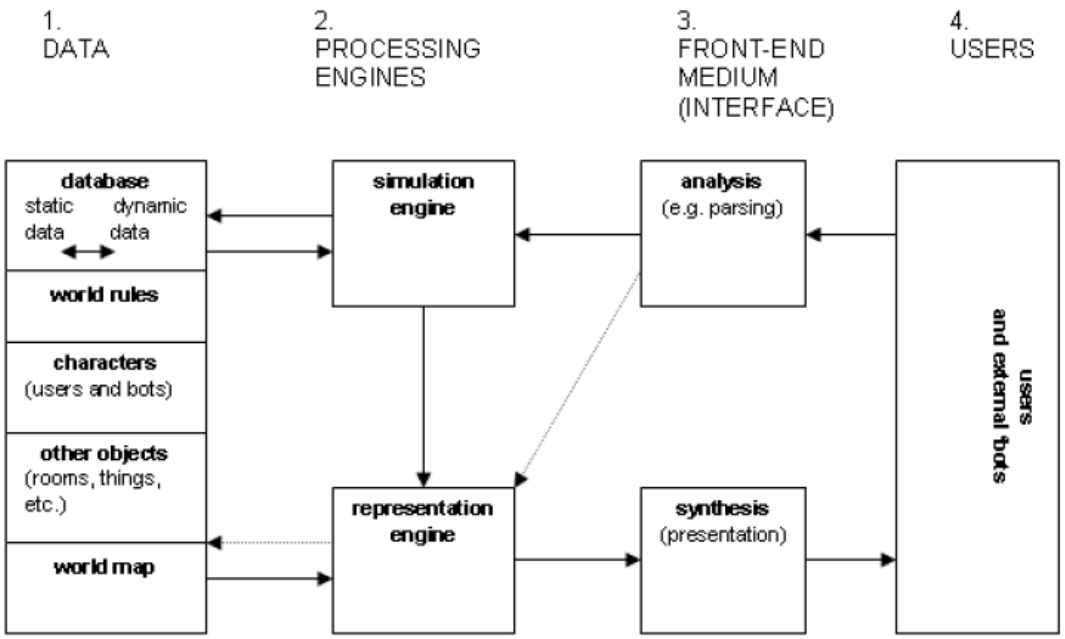
Drottningholm Theatre, with thundermachine (tilted box above stage) and wind machine (drum to left of stage)

From 18th-century French automata and Swedish theatrical spectacle through to magic shows and to CGI special effects (indeed, to cinema as a whole), these entertainment devices-that-simulate set out to amaze and enthral but, crucially, not to dissemble (Bolter and Grusin, 1999; Pierson, 1999). If the audience is fooled into thinking they are seeing the original then the simulacrum has failed. There is a different play between copy and original here – one in which the significance of representational components or interfaces, 'self-impell'd and a marvel to see' (piano

players and ducks, thunder, dinosaurs, trains rushing into stations), is less in terms of resembling their models and more to do with the provision of cues and frames for the audience's knowledge of, fascination with, and embodied response to, the technical apparatus of simulation.

Soft Automata /

A videogame is an automaton – a virtual self-moving entity constituted by parts that are themselves software automata. Espen Aarseth makes this clear in his analysis of the components, or 'part(icipant)s', of the text-based adventure genre of computer game. The game is constituted by, and constitutes, a dynamic system of databases, algorithms, simulation and representation engines, players and bots (Aarseth, 1997: 103). Videogames are not virtual playgrounds as such, not Euclidean (cyber)spaces forming stages for the interaction between discrete bodies and objects. Rather, gameworlds are cybernetic systems – loops that are brought into being by, and bring into being, virtual objects, avatars and topographical features, virtual physical laws of soft gravity and friction, and actual objects and entities (not least players) (Giddings and Kennedy, 2007).



'a generalized conceptualization of the functionality of a typical, but advanced, adventure game' (drawing of diagram in Aarseth 1997: 103)

A virtual world such as Wars World does not pre-exist the act of play; it and its player are brought into being in the moment, the event of play. It actively manages the player's exploration and actions through the setting of puzzles and engagements in combat, and it is populated by semi-autonomous non-player characters (NPCs). Popular game criticism will often judge a game on its Artificial Intelligence, and this may mean both the successful generation of convincing NPC behaviour and the 'behaviour' of the virtual environment more generally. Moreover, the time-space and dynamics of movement, generation and conflict by which Wars World can be considered animate bear a marked correspondence with the cellular automata of

Artificial Life research (Giddings, 2007b). Videogame worlds are exemplars of the automaton-simulacrum. Some resemble actual world environments and phenomena (battlefields or ancient ruins): 'resemblance continues, but it is produced as the external effect of the simulacrum . . . Similarity and resemblance now have as their essence only the condition of being simulated, that is, of expressing the operation of the simulacrum' (Deleuze, 1983: 53). As the algorithmically animated micro-universes of Wars World and the predator-prey virtual ecology demonstrate, what they simulate is themselves.

Dionysiac Machines /

> Simulation is the phantasm itself, that is, the effect of the operations of the simulacrum as machinery, Dionysiac machine. It is a matter of the false as power . . . The simulacrum, in rising to the surface, causes the Same and Like, the model and the copy, to fall under the power of the false (phantasm). (Deleuze, 1983: 53)

There is a creative chaos (Deleuze, 1983: 56) to the simulacrum: a 'process of going mad' folded into its 'daemonic' character (p. 49). The raising of the simulacra from the ocean depths to which they have been banished should not begin a new 'will to select', it should not merely reverse the moral values ascribed to the good copy and the phantasmic. Rather, in resisting the 'exclusion of the eccentric and divergent' in the name of 'a superior finality, an essential reality', the celebration of the simulacrum should undermine the will to select between models and copies itself:

> This whole distinction operates in the world of representation. The goal is the subversion of this world, 'the twilight of the idols.' The simulacrum is not degraded copy, rather it contains a positive power which negates both original and copy, both model and reproduction . . . Far from being a foundation, it swallows up all foundations, it assures a universal collapse, but as a positive and joyous event, as de-founding. (Deleuze, 1983: 53)

The ludological attention to the specificity of videogames (both as part of a long cultural history of sport and board games and as part of the more recent development of computer simulations) has proved vital to the development of game studies and should be more widely addressed in new media studies. However, its taxonomies and definitions tend towards the motive that Deleuze deplores: to establish lineages, to legislate between the good and the phantasmic and to deny the chaotic emergence of simulacra. Attempting to establish the essence of games, 'the heart of gameness' (Juul, 2003), and insisting on a species differentiation between games and other technocultural simulacra, might inadvertently deny games and play something of their virtual and actual realities, their instantiation as positive, de-founding events.

What then are the implications and points of departure for the study of videogames and videogame culture, and videogame players as chaotic simulacra? Shifting attention from the resemblances of computer gameworlds, we should recognize their images and environments as marked by the semiotic excess of other commercial popular cultural forms, or of earlier instantiations of the grotesque in culture. As Rune Klevjer (2006) points out, videogame worlds are, in the aesthetic sense of the term, grotesque . Their scenarios and agents sometimes echo earlier moments of

ludic and semiotic chaos – notably medieval carnivals, events of intense cultural production in which the gap between copy and original was exploited for parodic effect as men dressed as women and donkeys were elected Pope. We should also be alive to the sheer strangeness, the monstrosity, of the virtual worlds, their entities, and the actual worlds and entities (including players) they generate. From the seemingly endless flow of ludicrous micro-scenarios in *Wario Ware*; to the emergent cyborgian cultures of *World of Warcraft* – where the monstrous is both represented and realized, aesthetically, technosocially, economically; to the frantic, monstrous worlds of *Quake* and *CounterStrike*, running on and through over-clocked assemblages of PCs and players at LAN parties; to children reconstructing the Lego world they explored in a computer game in actual Lego bricks, then animating this actual world with the computer game's virtual physics (Giddings, 2007a), we can see simulacral events that are real: actual and virtual, embodied and distributed, human and nonhuman. They generate reality. From an ethnographic perspective, each event of playing the game is a new reality, a new synthetic world with (within the technological components of the system) an ecology/ethology of virtual environments and artificial creatures (all demanding response from the player). Each gameplay event (or series of gameplay events instantiated by a particular save-file of a particular game) fabricates the human part(icipant)s of the game as new players, simulacra, again.

Game studies is less worried than most other critical approaches to popular digital culture and technoculture, embracing the weightless crowns and paper flowers of ludic virtual worlds. But like the Whomper, it is still troubled in its honest heart. It may yet follow Little My and the Mymble's daughter, happy in the 'positive and joyous events' of the simulacra.

Notes /

1 Though the influence of Baudrillard's ideas here is marked, it is often mediated by more or less critical approaches to his conclusions and more or less attention to their complexities. See Games and Culture 2(3), November 2007 for a set of essays on Baudrillard and game studies.

2 For a thorough exploration of the specificity of games as both rule-based and (more or less) fictional artefacts, see Juul, 2006.

3 The mathematician and computational theorist John von Neumann, for instance, referred to both computers and the human brain as automata (Von Neumann, 2000[1958]).

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