Chapter 4: The model and the avatar

Mental and perceptual simulations

What *Mimesis as Make-Believe* describes, Ryan concludes in a review of Walton's book, is the 'illusion mode' of fiction, the experience of entering a virtual reality (Ryan 1995). This type of immersion is based on a principle of fictional subjectivity, according to which participants' actions and thoughts generate fictional truths about themselves. Being prescribed to imagine a 'world' implies, first and foremost, that we are prescribed to imagine the meanings of our *own* specific experiences in relation to that world. In the case of literary fiction, this virtual reality is based on a mental re-centring, a mental simulation. This can be contrasted to *perceptual* simulations, which is what Walton calls 'depictions'. Depiction, in Ryan's words, is based on the "pretended presence of an environment of which the spectator is a member" (1995:366).

Depictions, Walton explains, are essentially different from verbal props. What *Mona Lisa* offers is a 'perceptual game of make-believe'. Our perceptual act of looking at the painting is a dynamic representation of 'lookings' as they typically take place outside the game. The process of looking at the painting imitates – in some respects – the process of looking at landscapes, houses and trees. The characteristic property of depictions is, according to Walton, that we can use the demonstrative within the game of make-believe: we can point and say 'there'.

The dominant games of our culture, those that we normally play with paintings when we are in galleries or city halls, do not permit, or at least strongly discourage, other fictional physical acts than the simple demonstrative. Perceptual and intellectual interaction is supposed to be of primary importance, preferably embedded in a layer of analytical and distanced meta-games, in which our role is to analyse and reflect on the terms of our own participation, and contemplate the various capacities of the prop to generate (or negate) fictional truths. Nevertheless, paintings, because they are perceptual fictions, have a distinct potential to expand our fictional subjectivity by making a wider range of embodied interactions fictionally relevant; if you for example throw rotten tomatoes at a portrait of Tony Blair it could be difficult to convince others that it really is only the *painting* of him that you dislike and not the prime minister himself.

Not all types of perceptual interaction with artworks can be considered as perceptual *simulations*. Most importantly, the majority of 'readings' of verbal representations can not. When I read a novel, the reading itself – the perceptual act of reading – is typically not made fictional, not being included as part of the game of make-believe. The book does not prescribe fictional truths based on how I relate to its materiality as an object; it is not a reflexive prop.

A novel like *Gulliver's Travels* would be an exception, Walton notes – as would be, I want to add, the experimental hypertext-novel. In both cases, the material text is precisely meant to be a reflexive prop. *Gulliver's Travels* presents itself, fictionally, as a copy of the physician's journal. This strategy gives a relatively modest and hardly very imposing form of perceptual simulation. The experimental hypertext, on the other hand, has a higher ambition. Here the often disruptive nature of the reading-process is included into the world of make-believe, and this process includes material as well as perceptual navigation. In this sense the hypertext novel is a true hybrid between the novel and the interactive computer simulation. It has taken the step from being a 'simulation' in a psychological or metaphorical sense (as 'mental simulation') into also becoming a perceptual simulation, a depiction.

Jill Walker's article *Performing Fictions: Interaction and Depiction (2003[1991])* uses the notion of 'depiction' to conceptualise the general performative nature of computer-based fictions, including literary hypertexts as well as more media-rich and body-oriented art installations. Analysing Michel Joyce's hypertext novel *afternoon*, she concludes that "…depiction in interactive works can be not only visual, auditory or conceptual, but can also occur in the links and in the act of interaction." (2003[1991]:204) [37].

Walton's notion of depiction, as distinct from the 'description' of mental games of make-believe, is highly relevant to the study of interactive fictions (or fictional interactions), as Walker demonstrates. However, it does not address the specific capacity of what Eco calls a 'functional representation', a *model*. It is the model that makes our interaction meaningful beyond the realm of the predictable and the symbolic.

The model is what distinguishes a mental or a perceptual 'simulation' from a simulation proper. A simulation proper implements a clearly defined model. We could say, of course, that mental simulations also implement understandings or 'models' of how the world works, but these are not models that are defined or made explicit in any way. Because it is never clear exactly how they structure our participation in mental games of make-believe, they cannot act as dynamic props; they

37 In addition to analysing the performative nature of computerised fiction, Walker's article also provides a useful introduction to Walton's theory of fiction more generally and to the notion of depiction in particular.

cannot accommodate our intentional agency within the world of the make-believe. This is precisely where Walton's theory of props as 'depictions' is too restricted, I want to argue, for the analysis of computerised fictions. While it allows us to understand perceptual participation in terms of simulation and fictionality, it does not adequately help us to identify and describe fictional forms in which our 'fictional selves' are constructed primarily through intentional actions that produce objective and unpredictable results (unlike as when merely pointing at a picture). In model-based make-believe, the fictionally relevant results of our actions are determined by the fictional truths prescribed by the model.

By emphasising the relationship between agency and the principle of the model, I want to expand Walton's own conceptual framework to include embodied simulation as well as perceptual simulation. In the following I will attempt to clarify this idea, and show how the concept of the model is needed to distinguish between different principles that govern the constructions of fictional worlds.

The prop as model

Walton provides an alternative understanding of the autonomy of fictional worlds. He connects the practice of make-believe to an ontology of objective and shared truths, based not on subjective imaginations but on the prescriptive power of props. When we accept the invitation to participate in a game of make-believe and re-position ourselves as fictional subjects, imagination is externalised, manifested as a world for us to investigate and explore. The concepts of make-believe, prop, fictional truth and fictional subjectivity enable us to recognise and analyse the dimension of simulation in our engagement with representational art forms, and provides a comprehensive tool for analysing the distinctive properties of different types of representational technologies. Unlike what we find among play-theorists like Huizinga, Caillois or Bateson, Walton pays close attention to the role of the props within the magic circle, asking what kinds of interactions are allowed and encouraged as fictionally meaningful by different kinds of props.

Walton's model does not address, however, the difference between on the one hand cognitive or perceptual modes of 'simulation', and on the other hand simulation in the more literal sense of the term: simulation through the implementation of models. His category of 'depictions' does not distinguish between props that are *dynamically* reflexive and props that are only *perceptually* reflexive. While the latter, I want to suggest, is merely a depiction, the former is also a model. A painting, when used as a depiction in a game of make-believe, is reflexive with respect to how it enables us to look at it, and how we are able to refer to and express this perceptual act through the use of demonstrative and through pointing or otherwise designating. A model, on the other hand, because it is a functional

representation (the expression of a process in terms of a material or logical structure) is a prop that prescribes as fictional the *changes* that we effect in it.

In a purely perceptual simulation, no part of the process that we are prescribed to imagine something about is modelled in advance. There are no pre-made structural descriptions which our perceptual activities are 'implementing' – other than, as mentioned above, in a highly generalises sense. In a proper simulation, by contrast, fictionally meaningful procedures are articulated as formal systems (mathematical or computational models) or as tangible objects (concrete models). As opposed to the underlying principles or 'models' of mental simulations, these models are *external* in relation to us as participants and can be interacted with as autonomous objects. Their fictional significance emerges from this interaction. The specific capacities of the model-prop give meaning to the imaginative actions of the participant, and the agency of the participant realises the imaginative function of the model.

Whether a given representation is a model or merely a depiction will sometimes vary according to the rules of the specific game of make-believe in which the representation functions as a prop. As the example with the Blair-painting illustrates, a representation that is most commonly understood as a depiction can nevertheless be used as a model (making our embodied actions relevant within the game of make-believe), as long as we allow fictionally relevant process to be instantiated and articulated by the representation itself. If we are throwing tomatoes at the painting, *and* the resulting changes to the painting are allowed to prescribe imaginings reflexively, then we have an example of a simulation proper; a model-based game of make-believe. The painting itself, realised via our agency, comes to represent the *process* 'Tony Blair is being thrown at' – just like a teddy bear may represent, for example, 'Teddy is being put to bed' or 'Teddy is being accidentally dropped'.

Even if the difference between a model and a mere depiction is often in the eye of the beholder, as it were – dependent on what type of game of make-believe is being played – this does not mean that the objective properties are of less importance because of this flexibility. It is always the objective properties of the prop that enable it to function as a model. In the case of the Blair-painting, for example, it is evident that the tomato-game could not come about unless the painting itself is solid and 'hittable'; the tomato may be crushed against the canvas and drip slowly across the surface. A hologram of Tony Blair clearly would not work, although it would work fine considered as a depiction.

To conclude, a model, defined in terms of Walton's theory of representation, is a dynamically reflexive prop. The principle of the model makes the changes that we effect in props fictionally relevant. As long as a prop is not allowed to function as a model, whereas the *acts* of the participant can be recognised as fictionally relevant, the *changes* that the participant effects in the prop can not. Leaving coffee stains

on the pages of a novel, for example, usually acquires no meaning within the game of make-believe. As long as the book itself is not granted the status of a functional representation it does not matter to the fiction what we do with it[38].

Instrumental make-believe

When a fictionally relevant process is functionally represented by a prop, independently from the participating subject, this enables the subject to act meaningfully on the prop from a position outside the game of make-believe. Whereas a model needs to be implemented as fiction via some form of agency, this agency itself does not necessarily have to be situated in a way that is fictionally meaningful. With reference to Ryan's notion of 'recentring', we can say that this type of make-believe is a paradox: The autonomy and integrity of fiction is maintained even if we interact in 'telescope' mode, from a position outside the world of the make-believe (Ryan 2001:103).

Instrumental agency retains for the participant a non-fictional subjectivity. Model-based instrumental agency is the kind of agency where make-believe is constituted only through the behaviours of the model (the dynamically reflexive prop) as those are affected by the player. While the *results* of the player's actions will be fictionally meaningful, the actions themselves are not. Instrumental make-believe, considered as a modality of interaction, is not dependent on the principle of the model, but the model gives it a new significance. The objective and independent capacities of the model serve to consolidate and expand the possibility-space for meaningful instrumental interaction with fictional worlds.

In its minimal form, instrumental interaction emerges simply from the rule-based nature of make-believe; from the fact that fiction is, as Walton points out, generative. The paradigmatic example would be the writing of fiction: the author's relevant actions are constrained by the fictional truths generated by the game of make-believe (truths generated by rules and props), which dictate what can possibly happen next and what cannot, or which dictate, for example, how the beginning must be changed in order to accommodate the ending. However, the author is not, in Walton's terminology, 'participating' in the game through his or her acts of writing; re-writing a tragic ending into a happy ending does not qualify as 'saving' the hero.

38 A book can also be a model, depending on the rules of the game we are playing with it. Intentionally burning a book, for example, will usually imply that the material prop of the book is being treated as a *metonymic substitute*: a concretised model of the set of ideas that is conveyed by the written text that the book contains.

This basic form of instrumental action acquires a whole new set of possibilities when rule-based processes of make-believe are instantiated and externalised in dynamically reflexive props. Models follow their own ways, as it were, and the player (or author) does not have to understand how they work in order to be able to take meaningful action. When playing with a group of Lego men, for example, we can simply experiment freely, arranging them in different shapes and patterns (or even just throw them out on the floor), and then see what kind of fictional truths emerge from that. This kind of 'testing out' – doing something and then watch the results – could also be done, in a certain sense, by a novelist, but the novelist would be a lot more dependent on knowledge of the fictional process in order to have a chance of anything fairly consistent and meaningful to happen. In other words, the novelist would be much more dependent on the immersive mechanism of fictional participation, relying on imaginative recentring into the story that he or she writes. When this option is not available to the writer, as is for example in the case in collaboratively improvised 'folding stories', the fictional world is not likely to make much sense (unless, of course, the participants' inputs are restricted by an abstract model of some sort).

In games of instrumental make-believe, fictional subject-positions are still be available – to writers as well as to Lego-players – only these are not defined in terms of agency, and not premised on the principle of the model. While agency always implies a subject-position (a subject that acts), the reverse is not true: a fictional subject-position does not necessarily require agency. In mental and perceptual 'simulations', the fictional subject-position of the participant is allowed to exist *nowhere* from the point of view of the fictional world – it is not being assigned any 'acting instance'; no embodied status or presence.

Instrumental and non-fictional agency is always an option when we play with toys, acting in parallel with or in various ways alternating with in-game modes of agency. The typical example, again, will be playing with Lego: While there will usually be – fictionally – someone piloting the Star Wars vehicles that I am building, the question as to 'who' is *constructing* those vehicles would hardly be considered as relevant within my game of make-believe; the Millennium Falcon may be fictionally piloted by myself as Luke Skywalker, but is being constructed by no one, nowhere. Because toys generally encourage fictional as well as non-fictional positioning, there exists, we must assume, in most kinds of play a multitude of habits and strategies to negotiate various oscillations and parallelisms between 'incompatible' subject-positions.

A somewhat curious special case in this respect which should be mentioned here is the kind of imaginative game that offers clearly *competing* subject-positions: where a split between instrumental agency and fictional subject-position is not only allowed, but directly prescribed by the prop. Certain kinds of computerised fiction – notably the so-called 'interactive movies' – encourage that we re-position

as fictional subjects (as when watching a movie) while at the same time restricting our agency to the instrumental level only[39].

Finally, there are games of make-believe – typically computer games, but also other types of computerised fiction – in which models demonstrate their *own* agency (that is, they are not just reflexive but active). This makes a particularly strong case for instrumental games of make-believe; the results of the player' actions can be highly elaborate, complex and unpredictable, yet perfectly consistent and meaningful. I will return to the question of computerised models in the chapter below.

Gestural simulations

I also want to suggest that we distinguish between simulation through the implementation of models and 'simulation' purely through the use of mimetic gestures. Unlike mental or perceptual make-believe, gestural make-believe is based solely on the movements and appearances of the participating subject. These games of make-believe are typically played to be watched, as in the theatre, for example, when one actor 'kills' the other with a sword stabbing gesture[40].

According to Umberto Eco in *A Theory of Semiotics* (Eco 1976), a mimetic gesture is a particular type of iconic sign, a 'kinesic iconic sign', which must be distinguished from a relationship of functional resemblance or 'analogy of function' (Eco 1976:209), as I referred to in chapter 2. A mimetic gesture does not need to include any model or 'functional' sign; on the stage, for example, actors may use a plastic sword of some sort, by they do not have to. On the other hand, it is clear that certain types of concrete models – notably, the broomstick that Eco uses as an example – cannot be implemented in a game of make-believe without depending on a gestural dimension; there is no way of using this kind of model without also performing a gestural simulation. Indeed Eco, because he is essentially concerned with signs, not with simulations, is only interested in the iconic aspect; he does not consider any 'identity of function' that would *not* create, as he says, 'the impression of iconism' (Eco 1976:209). For my purposes in this thesis, it is interesting to note, however, that certain kinds of 'functional' representations, namely miniatures as

39 For a discussion of the distinction between interactive movies and 'movie games' – the latter which do, unlike the former, give the player some kind of fictional subject-position from which to act within the world of the game – see Perron (2003).

40 The mimetic behaviour of the participants in a gestural simulation does not necessarily have to involve any actual movement; the participants might, for example, simulate skyscrapers or statues. Static positions will still qualify as gestural make-believe, made meaningful through the moving body's capacity to not move.

well as many computer games, unlike hobby horses or plastic swords, do not in fact imply any iconic gestural dimension.

In the same passage, Eco also points to another interesting type of gesture, which he refers to as 'intrinsically coded acts'. These gestures are not, he points out, 'directly iconic'; he uses the example of a boy who pretends to be shooting a pistol by moving the finger as if he were pressing a trigger, while closing his fist as if he were clutching the butt of the pistol. In this case, Eco argues, neither the gun nor the act of shooting is being imitated. Instead the gesture is a 'gestural sign-vehicle' which denotes, through a *metonymic* relation, the act of someone firing a gun; the gun finger is used as a part that refers to a whole (1976:209-210). In chapter 7 I will return to the role of these kinds of gestures in computer games.

The more general point to be made here is that a gestural simulation, whether it also implements models or not, is not a model-*based* simulation. In gestural simulations, because they are usually performed as iconic *signs*, as acts of communication, any concrete models that are being used are not meant to generate unforeseen fictional truths, not meant to operate unpredictably, on their own accord. Any kind of prop, including words, bodily gestures or plastic swords, may of course generate fictional truths in ways that we cannot entirely control and predict in advance, but the point is that in model-based simulations, either in play or for other purposes (training, scientific research), it is precisely this capacity to generate truths independently of our knowledge or intentions that motivates their usage. When we use a plastic sword in a gestural simulation, whether on stage or in other settings and situations, the sword is not meant to actually have a say in what happens; we may accidentally drop the sword on the ground during the performance, but this possibility (which is always present) would not be part of our motivation for implementing the sword as a concrete model.

In contrast, when we for example play with some kind of model gun in a proper (model-based) simulation, the whole idea is that we are shooting *at* something. With certain kinds of model guns (which would not include, for example, pea guns), this make-believe would not dependent on any mimetic gestures at all. With proper simulations, unlike gestural simulations, we do not want to know in advance the fictional truths generated by our actions; when we simulate shooting *at* something, we also want to run the risk of missing.

Fiction versus simulation?

Does the study of mimetic play really need an 'alternative' and non-diegetic theoretical understanding of fiction? Would it not be far simpler and just as productive to acknowledge that a model-based simulation (a simulation proper) is neither fictional nor real; that it simply constitutes an ontological modality

of its own, for which the concept of 'fiction' has no real value or would even be misleading?

Espen Aarseth's point of departure in his recent short paper "The Perception of Doors: Fiction vs Simulation in Games" (2005b) is similar to my own: we need to re-think our established notions of fiction. As the title of the paper indicates, however, what he argues is that we should not re-define or expand it but rather reject it:

> In short, games are not fictions, but a different type of world, between fiction and our world: the virtual. There are also other worlds: dream worlds, thought experiments, religious perceptions, mirror worlds, etc. All these are different alternatives to our own world, and as different from fiction as they are from each other. (Aarseth 2005b:2)

Aarseth here advocates a very different concept of 'fiction'. But there are also important similarities. I agree with Aarseth that the principle of the model is the central difference between simulations and (other) fictions. A simulation, unlike for example a novel, is the implementation of a model. This model has objective properties and capacities that we explore, challenge and learn from when we engage with it in mimetic play. As noted above, when we simulate the shooting *at* something (– and, we might add, shooting *with* something), we also run the risk of missing. This is the point at which Walton's theory of participation is lacking: he does not acknowledge model-based fictional participation as different in principle from purely mental and perceptual games of make-believe. According to Aarseth, the former constitutes the virtual, and should be understood in opposition to fiction rather than as one of its modalities.

Literary fiction, according to Aarseth, is not to be confused with virtuality. The realm of the fictional is defined according to two main criteria. The primary definition apparently follows common sense: fiction exists in imagination, or as in Philip K. Dick's phrasing (quoted by Aarseth): "Reality is that which, when you stop believing in it, doesn't go away" (Aarseth 2005b:1). Translated to Walton's terminology, what this quote says is that fiction is that which is imagined. Reality is that which exists as something external to the subject, independently of our imaginations. Conversely: the fictional only exists in our imagination. In other words: if you do not imagine that there is a bear in the thicket, there is no bear in the thicket – only a stump. This definition of fiction excludes the idea that fictional worlds can be 'explored' as something that is external and objective; something that doesn't go away when you stop believing in it.

Secondly, Aarseth's 'fiction', as opposed to the 'virtual' of games, refers to the non-factual. This is a fairly common definition of 'fiction' in media and literary theory. 'Factual' does not here mean the same as 'true', but that which claims

to be true, according to (broadly speaking) social convention and the particular context. The factual is what takes an 'assertive stance', according to Carl Plantinga (1997:17): it asks to be judged as a statement about the world, a statement that can be true of false. This factual commitment is not always unambiguous or stable, but still works so that we in most cases are able to separate the factual from the non-factual in a given communicative context. Although not entirely clear from the brief theoretical argument in the paper[41], we must assume that fiction as the non-factual is linked to the first premise, which states that fiction is that which is imagined. Fiction, then, according to Aarseth, makes no statement (about the external world) that could be true or false, because it is only meant to exist in imagination.

As indicated in the title of the paper, Aarseth refers to the well-know phenomenon of painted-on doors in computer game worlds to illustrate the difference between the virtual and the non-factual (the 'fictional'). These are doors which, unlike simulated doors, do not function as doors but are merely visual representations.

> Clearly, these two types of door are very different, and the first type is obviously fictional; it behaves like an unused door in a film, or a closed door in a painting. The game is not making a statement to the effect of "In Wartime Germany, most doors were fake, simply painted on." So if the first type of door is fictional, what is the second type? Is it also fictional? If we conclude this, then we are clearly looking at two very different types of fiction, with only the first type being similar to fictional phenomena in all other media. (Aarseth 2005b:3)

It is clear that, as Aarseth argues, the non-factual and the virtual are indeed two 'very different types of fiction'. What is puzzling is that he seems to imply that fictional phenomena in 'all other media' really are about the non-factual; about propositions that are 'not making a statement'. This is a radical position, because as we have seen, neither Walton nor Ryan (– nor, on a more general level, Pavel) sees fictional phenomena as being based on non-factual statements. On the contrary, they argue that fiction – any fiction – is about virtuality. In Aarseth's argument, the problem with a theorist like Walton would not be that he is "dealing with fiction in literature or film" (2005b:1) but that Walton, like Ryan after him, places the rule-based realm of the virtual (the *game* of make-believe) at the heart of fiction. Fiction is that which makes us experience the imagined as actual; as something that is upheld by consistent rules, which is independent of us and

41 It is not clear whether the Dick-definition should be taken as a statement about referentiality (truth value) or a statement about perceptual presence – in other words if he is talking about non-factuals or if he is talking about illusions – but it seems that Aarseth chooses the former.

does *not* go away if we stop imagining it. This dimension of fictionality is lost if we merely, as we often do in everyday speech, take 'fiction' to mean 'non-factual'.

If the question of fiction has to do with truth and authenticity, Aarseth is of course correct to argue that the virtual and the fictional are two different things. As he points out, differences with respect to how game worlds relate to the historical world must be separated from the question of virtuality. However: so is the case with all other fictions. While game fictions are indeed different from fictions in other media, this is not due to their virtuality. On the contrary, virtuality is precisely what they *share* with fictions in other media. Various imperatives of authenticity (or lack thereof) are important generic markers, but they are not fundamental to the basic mechanisms of fictional participation, neither in games nor in other media.

The painted-on doors in *Return to Castle Wolfenstein* (Grey Matter 2001) do not belong to a different ontological realm than the simulated doors do. The problem with painted-on doors is simply that they create a contradiction in the rules of the mimetic game. Initially, through our visual participation with the game, we are led to understand that they are doors (which would behave like doors). However, as soon as we try to open them, we are told that they are *not* doors (because they do not behave like doors). What we are talking about is not an ontological split between the fictional and the non-fictional, but two different types of props; in order to avoid a contradiction in the rules of make-believe, the game asks us to *not* consider the painted-on door as a *model*, as a functional representation, even though this is what we as players would naturally assume. To the extent that we can accommodate this exception – something that is a lot easier to do if the two types of doors are also clearly distinguished in terms of visual appearance – there is no contradiction in the gameworld. When there is a contradiction (if we do not accept the modal shift), this is a contradiction in how we are asked to relate to the fictional world, not a contradiction between the fictional and the non-fictional.

So both types of doors are equally virtual, and equally fictional. What we are dealing with are two different modes of fictional participation: the purely visual mode (which Walton would call 'perceptual games of make-believe') versus the model-based mode. Sometimes, in mimetic games, we need to oscillate between these two different modes in order to avoid that two conflicting sets of fictional truths are being constructed. The same principle would apply to, for example, children playing with Legos or dolls; their fictions will consist of both functional and non-functional representations, but these modal variations do

not in themselves necessitate any ontological acrobatics in between the fictional and the non-fictional[42].

While it is important to realise that computer game fictions are rooted in the principle of simulation, we should not therefore conclude that 'fiction' is something that goes on primarily in other media, and which is incidental to games. Doing so would be to throw the baby out with the bathwater. If we follow Aarseth's theoretical strategy, the fictional dimension of games (including all the resonances from our engagements with literary and cinematic fictions) can be safely assigned to the realm of non-functional representations – that is: defined as a matter of narration and audio-visual appearance, and as detached from the dominant mechanisms of agency and subjectivity in computer games.

Aarseth's distinction between the virtual and the fictional serves to reproduce, I would argue, a separation between 'immersion' understood narrowly as literary immersion and 'immersion' understood as focussed engagement. According to this model, there are only two types of immersion and subject-positioning worth considering in computer game play: *either* we are talking about the 'flow' that captures the computer game player (which could be similar to climbing a wall, playing checkers or configuring a router)[43], *or* we would be addressing a diegetic 'reader', as it were, who is being immersed in a similar fashion as in literature or film.

My argument is that both types of 'immersion' – especially the latter – are unsatisfactory as models for describing fictional participation in computer games. Now, we may of course – as I have done in previous research[44] – combine the two, attempting to account for the role of fiction in terms of how 'gameplay' versus 'representation' (or, alternatively, 'storytelling') interrelate and overlap in spite of their 'ontological' conflict. While this strategy may be productive in certain respects, there is also risk that the underlying theoretical binary will lead us to overlook the core mechanisms of imaginative play, while encouraging us to construct solutions to a lot of unnecessary problems.

For the purpose of analysing avatar-based computer games, the gameplay-versus-fiction framework is especially inadequate. In order to account for the role of the avatar in computer games, we need to acknowledge that simulation includes the role of the simulating subject as part of its definition. As Aarseth also points

42 As noted above, both children and adults are experts at 'oscillating' between or fluently negotiating the ontological divide between the fictional and the actual. However, the point I am making is that these negotiations are not triggered by the juxtaposition of models and non-models.

43 The notion of 'flow' as I am using it here draws on Csikszentmihalyi (Csikszentmihalyi 2000[1975]).

44 See Klevjer (2002).

out, simulations typically become personal – "through experience" (2005b:4). However, according to Philip K. Dick, fiction cannot include embodied experience, as this experience is clearly independent of our own subjective imagination. This could be called the *idealistic* concept of fiction: fiction belongs to the realm of ideas and imaginings; it has nothing to do with the role of the avatar, because it has nothing to do with the world of the body in the first place.

In contrast, concluding this chapter by returning to *Mimesis as Make-Believe*, the central insight we can draw from Walton's theory is that the nature of fiction is *generative*. As long as a game of make-believe is agreed to – even if only a very simple one – the dynamic of props, rules and actors will construct an objective and shared reality of fictional truths. Once the wheels are in motion, once the cards are handed out, the fictional becomes an autonomous 'world' which can no longer be controlled and directed at will by the imagination of its participants. In other words: fiction is out there, to be investigated and explored.

The avatar

An avatar is an instrument or mechanism that defines for the participant a fictional body and mediates fictional agency; it is an embodied incarnation of the acting subject. It is dependent on the principle of the model, and acts as a dynamically reflexive prop in relation to its environment. Its capabilities and restrictions are based on the objective properties of the model, and these capabilities and restrictions define the possibility-space of the player's fictional agency within the game. The avatar therefore defines the boundaries of embodied make-believe.

The notion of 'agency' that I am using here ties in with Janet Murray's concept of 'dramatic agency', but is more specific[45]. Murray's concept has nothing to do with fictional re-orientation or fictional subject-positions; dramatic agency is secured by any kind of coherent and fictionally relevant responses to the user's actions. By contrast, fictional agency is always 'incarnated' in a body, always defined via the mediating principle of the avatar.

It is important to emphasise here that avatars are not exclusive to computer games; avatar-based play is a long tradition of mimetic play, in all likelihood as old as mimetic rituals, and probably older than drama or roleplaying. Typical examples of models that are being used as avatars would be toy trucks or Barbie dolls; in other words the kinds of 'reflexive props' that Walton also typically uses to illustrate his general theory of props and fictional truths – even if he is not concerned with distinguishing models from non-models, or privileged 'incarnations' from other props. Avatars, I also want to emphasise, do not only belong to games

45 See Murray (2004).

that we are used to thinking about as games of make-believe. On the contrary, avatar-based games tend to be ambiguous with respect to what kind of (and how much) fictional participation they encourage. The typical model in this respect would be a radio-controlled model plane, which enables us to take to the sky even if we are firmly grounded on earth.

Finally, we should note that avatar-based play does not require us to stick to one, single avatar during the course of a game. The only requirement for vicarious embodiment to be unified and coherent, is that the avatars are comparable in certain respects; that they can be perceived as belonging to the same, temporary universe. When playing with toy trucks, for example, all the different types of vehicles can be considered as variations of the same basic type of avatar – as they are of roughly the same scale, and model the phenomenon of real cars according to roughly the same principles. A more overly designed example would be a Stiga table hockey game, in which the hockey-player figures are attached to rods that the player slides and rotates underneath the surface or 'ice'. Here the player, from one point of view, changes avatar every two seconds (– or, in the case of skilled players, considerably faster), but we could still say that the entire game unfolds through the mediation of one, singular avatar-relationship.

The particular kind of fictional world that is constituted via the avatar should neither be confused with a diegetic world, nor with the magic circle of agonistic play or with the abstract and formal 'world' of a game system. Embodied make-believe is premised upon an *environment* within which the participant can become an acting body. Mediated by the avatar, the environment becomes our tangible world, our habitat.

The avatar and the body

Whereas Walton's general notion of participation allows us to extend his conceptual framework to also describe the particular significance of fictional agency in mimetic play, his general perspective does not give a lot of pointers as to what the re-orientation of the subject might mean in terms of our *body's* relationship to the fictional world of the game. Clearly, a Barbie doll and a model plane offer different kinds of embodiment, even if both can be said to mediate fictional agency.

Maurice Merleau-Ponty's *Phenomenology of Perception* (2002[1962]) presents a useful complimentary perspective to Walton in this respect. It is centrally concerned with the relationship between the body and the environment, and with the relationship between subjectivity, perception and embodied interaction. Merleau-Ponty's notion of the 'embodied mind' has yet not been much thought through with respect to the analysis of computer games aesthetics – at least not on

the level of genre, applied to particular modalities of computer game perception and interaction. While the central ideas of his phenomenology serve to broaden the basic notion of the avatar as described in light of Walton's theory of fiction, they can also help us see how different kinds of avatars structure interaction and make-believe in different ways.

In *Phenomenology of Perception*, Merleau-Ponty re-interprets his earlier ideas around the psychological concept of 'Gestalt' in light of the influences from Husserl's and Heidegger's phenomenology. The central concept in this phenomenological re-orientation is the concept of intentionality; the 'alreadyness' that marks out Husserl's phenomenological subject as different from the idealised, rational and detached 'mind' that is at the heart of the epistemological systems of Descartes, Hume and Kant. For Husserl and Heidegger, the subject is something that by definition is already in the world; it is already directed or 'intended' towards a world that appears as meaningful. There is no subjectivity outside or prior to what Heidegger calls the *Dasein* or the 'Being-in-the-world'; that is, there is no 'thinking being' that can be able to reflect on itself directly, as a pure 'subject' that stands before an 'object'. Because we as beings are already in-the-world, the world is *a priori* given as meaningful to us, 'always already' before we are conscious of this meaning, and before it may occur to us to reflect on this meaning. The *Dasein* is by definition a being *in relation to* and by virtue of something that is external to itself.

Merleau-Ponty adopts and re-interprets this idea, however emphasising that the Dasein is a particular kind of *embodied* being-in-the-world. In other words: the subject is not a mind that 'has' a body (– as an object), but is constituted as a subject by virtue of being a body-in-the-world in the first place. The body is both object (we can relate to it as an object) and *subject*, because embodied and perceptual existence is the a priori condition for there to be any meaningful relationship to the world. This implies that 'being' (the question of ontology) cannot be separated from *doing*, from perception and action. The subject is not, as Descartes asserted, a 'cogito' or 'I think', but rather an 'I can' – a body-subject (Merleau-Ponty 2002[1962]:159). The way we perceive the world and our position in it is grounded in the phenomenology of the body, which is 'our general medium for having a world' (2002[1962]:169).

One of the reasons why avatar-based games appeal to us is precisely because the principle of the avatar is grounded in, and plays with, the general phenomenology of the body. It is the mediation of embodied agency that makes us relate to the avatar intuitively as an 'I can', and which enables us to experience a simulated environment as something that we can inhabit; a 'world' that we belong to. When playing make-believe through the mediation of avatars, there is no need to explain engagement and immersion in terms of mechanisms of 'identification' or similar kinds of bonding between the player and the (sometimes humanoid) avatars. We

do not identify with the avatar; we generally 'identify' with *other* people's actions, not our own.

Merleau-Ponty's theory of 'habit' is a particularly useful point of departure for the analysis of avatar-based perception and interaction:

> If habit is neither a form of knowledge nor an involuntary action, what then is it? It is knowledge in the hands, which is forthcoming only when bodily effort is made, and cannot be formulated in detachment from that effort. The subject knows where the letters are on the typewriter as we know where one of our limbs is, through a knowledge bred of a familiarity which does not give us a position in objective space. (Merleau-Ponty 2002[1962]:166)

In broad terms: 'habit' refers to how perception works, and is a result of the embodied subject's efforts to come to grips with its environment. Perceptions are not something that is 'picked up' by our sensory apparatus to be 'decoded' into meaning; perception is a knowledge that we acquire as part of our efforts to grasp and find our place in the world.

Habit describes what the psychologist James J. Gibson later has called 'affordances'; phenomena in the world are being perceived by the 'I can' as possible ways of interacting and doing[46]. To Gibson, 'affordance' does not merely describe the conscious act of recognising possibilities of successful interaction (as when, for example, a familiar-looking door handle will indicate to us that the door can be opened), but describes a basic condition for there to be any meaningful visual perceptions at all.

> The perceiving of an affordance is not a process of perceiving a value-free physical object to which meaning is somewhat added in a way no one has been able to agree upon; it is a process of perceiving a value-rich ecological object. Any substance, any surface, any layout has some affordance for benefit or injury to someone. Physics may be value-free, but ecology is not. (Gibson 1986[1979]:140)

Gibson's 'ecological' approach is a way of grounding perception in the intentionality of an *organism* which "always already" inhabits its environment. The world does not appear to us as raw sensory data which then have to be 'clothed with meaning' (1986[1979]:140) in an act of interpretation or abstraction. To an organism that inhabits an environment, a meaningful world appears as an *ecology* projected

46 Donald Norman has popularised 'affordance' into the field of HCI, although in a more commonsensical version, as a mechanism not of perception but of conscious *recognition*, referring to "...the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used" (Norman 1988:9).

around that organism – as affordances which "*seem* to be perceived directly because they *are* perceived directly" (1986[1979]:140).

With particular relevance to the realm of play and games, Hubert L. Dreyfus emphasises how the notion of affordance provides a fundament for a theory of learning, calling attention to the embodied mechanisms of skillful coping, mastery and success. Dreyfus pays particular attention to what Merleau-Ponty calls the 'maximum grip'; the mastery, the predictability of interaction and the balance that the body-subject always strives to achieve in relation to the environments it inhabits.

> One is no doubt consciously motivated to acquire a skill like tennis, but one does not try consciously to discriminate more and more subtle tennis situations and pair them with more and more subtle responses. All one can say is that in order to improve one's skill one must be involved, and get a lot of practice. The body takes over and does the rest outside the range of consciousness. This capacity is for Merleau-Ponty a further manifestation of the body's tendency to acquire a maximum grip on the world. (Dreyfus 1996:7)

Following Dreyfus, we can see sporting and gaming as privileged kinds of activities that manifest how embodied subjects come to grips with their particular environments. An interesting paragraph in Merleau-Ponty's earlier work *The Structure of Behaviour* (1965) describes the way in which the body of a competent player 'becomes one with' its environment in a game of football. The football field is, Merleau-Ponty writes:

> …pervaded with lines of force (the 'yard lines'; those which demarcate the penalty area) and articulated in sectors (for example, the 'openings' between the adversaries) which call for a certain mode of action and which initiate and guide the action as if the player were unaware of it. The field itself is not given to him, but present as the immanent term of his practical intentions; the player becomes one with it and feels the direction of the goal, for example just as immediately as the vertical and horizontal planes of his own body […] As a result, there is a process whereby simultaneously the body-subject constitutes the field, whilst the field constitutes the practical consciousness of the body-subject. (Merleau-Ponty 1965:168)

The football player, in other words, can be seen as a temporary 'body-subject' that is being established within the situation of the game. This situation is in important respects similar to the situation of avatar-based play. Take the example of the Stiga table-hockey game above: Getting into the 'flow' is a matter of entering into

a new domain or 'practical consciousness' of playing the game, of entering into a communion with a technologically articulated environment.

However, if we look at the environment of the game as a whole, it is clear that the mechanism of the hockey-figure and the rod has a privileged role in relation to our acting body, mediating our agency within the environment of the game. It is a privileged 'value-rich' object within the ecology of the playing field, which cannot be compared to any corresponding element in a game of real hockey. On a real hockey ice, neither the puck nor the stick or any other ecological object stands in a similar kind of relationship to the player. If we compare the two environments, the miniature hockey player would correspond instead to the player himself – not as an ecological object but an extension of the ecological *subject*, that is: as both object and subject, like the body that it extends from.

In the phenomenological sense, then, the avatar should be understood as a prosthetic extension of the body-in-the-world, as illustrated by Merleau-Ponty through the example of the typewriter in the quote above. For the player, it is through this perceptual extension that the rest of the game-relevant environment falls into place. Like a typewriter, the avatar integrates with the body and sets up a new space of affordances, a new bodily space (2002[1962]:167). 'Bodily space' describes space as it exists *for* (or by) the body-subject; it is constituted as 'environment' by virtue of being meaningful to bodily effort. Like a new limb or a prosthesis, the avatar has the capacity to transform bodily space; it transforms the space of potential action for the 'I can', and integrates with the body as a perceptual habit. In other words, when we learn to use tools or other kinds of extensions to our body, we start perceiving our environment differently. When the body-subject changes through the appropriation of a prosthetic extension, the environment that it 'projects around itself' also changes. Different kinds of bodies constitute different kinds of bodily spaces.

The example of a radio-controlled model car may serve to illustrate this point. When getting into the 'habit' of navigating the environment via the extension of the model (a habit that will usually require a lot of practice to acquire), we start perceiving the textures of the ground differently; our perception is being 're-wired' to make us aware of every little bump or other tiny formation that might present a potential hurdle to our vehicle. Moreover, this sensitivity to otherwise ignored details of small sand and rock topography will not disappear in an instance once we stop playing and loose our prosthesis. Like a phantom limb, the sticks of the controller and wheels of the model car will still be there as an imprint on our faculties, calling attention to a microworld of bumps and obstacles that is no longer relevant to the efforts of the now 'castrated' body. Similarly, a table-hockey player is always going make sure that his mid-striker is pulled back to the back end of its sliding slot, ready to be slammed forward when there is an opportunity. When the striker is out of position, the habituated player will automatically pull

the rod quickly back to its default position. The operation becomes second nature, just like when a video photographer pulls the zoom all the way down to adjust the focus, even if his eyes tell him that everything seems ok; the 'photographer-body' knows when a view is *potentially* out of focus, just like the table-hockey player will know in a split-second if the mid-striker is pulled back or not. This is "knowledge in the hands", the knowledge of the extended body.

A prosthetic extension is dependent, in one way or another, on real-time control. The more an avatar takes on behaviours that reflect either its own agency or which emerge as passive responses to forces and agents in the environment, the less it functions as a prosthesis to the body-subject, and the more its status as an avatar is being weakened. In table-hockey, the movements and actions of the figures are under my hands' direct and continuous control. This hands-on and real-time control can be distinguished from what you find in a similar-sized game like pinball, in which the metal ball is on its own once it has left the plunger. This metal ball obviously stands in a privileged relationship to the player, as its behaviours and final destiny decides the player's score, but this kind of (game-defined) relationship is not covered by the notion of the perceptual extension. Non-extensions of this type may occupy a privileged position also in games of make-believe (which, I would argue, pinball is not), typically in the form of a vehicle of some sort, but then they are not avatars; they do not articulate the player's embodied agency in the environment of the game. Examples would be a non-controllable but motorised toy-truck let loose on the kitchen floor, or a plastic toy-bobsleigh finding its way (or not) down the slope that we have prepared for it. The avatar, in contrast, is a prosthetic extension of agency and perception, not an independent agent.

On the other hand: does this mean that all extensions, from hammers and typewriters to tennis rackets and croquet mallets, should be considered as avatars? No. The avatar is not merely an extension; it is also model, mediating fictional agency and forming the basis of a sub-category within the tradition of mimetic play. Because the avatar is a model, avatar-based play can be distinguished from traditions that are rooted in gestural simulations; the principle of the avatar should neither be confused with role-playing, nor with drama, which are forms that do not rely on the principle of the prosthetic extension.

An avatar is an extension that is also a model. The environment of table hockey models, in some respects, the environment of real hockey, and the playing of table hockey simulates (– again, in certain respects) the playing of hockey. Table hockey is a miniature, modelling that which is full-size. Without the principle of the model, extensions do not become avatars, and there will be no 'props' whose behaviours prescribe fictional truths. Real hockey involves bodily extensions (skates and sticks), but does not simulate anything. A corresponding small-sized example would be – as mentioned above – pinball, in which neither the metal ball,

the flippers nor the general environment of the game is typically thought of as a simulation, nor as a miniature that models something bigger. The plunger and the flippers that we control are extensions of our body, but as *tools*, not as avatars.

While the tool is an instrumental extension, the avatar is a *reflexive* extension. We can say – following Merleau-Ponty and Gibson – that it 'inhabits' an environment because it belongs to it and lives in it. The avatar is not just acting upon, but also being acted upon and affected by; it is submitted to and exposed to its environment. In contrast, tools do not belong to the environment; what we are interested in is their capacity to alter the environment, not their capacity to become altered by it. This makes natural sense, because the role of the tool is not to mediate for the player a fictional subject-position within the environment. While any alteration of the avatar reflects and confirms the player's participation in a make-believe ecology, any significant impact caused by the environment on a tool will be either irrelevant or unwanted. Unless the hammer is taking part in some kind of make-believe, there is no reason for it to be willingly affected by the nail.

Similarly, it would not make any sense to let the plunge and the paddles in pinball become exposed to and affected by their environment – unless we choose to consider this environment in some sense as a simulated environment (a miniature). As long as a pinball game is just a pinball game, the plunger and the paddles do not mediate any kind of fictional agency on behalf of the player. The perceptual extension of table-hockey games, in contrast – a small figure that we would be hard pressed not to take as a model of a hockey player – has the capacity to project around itself a fictional world, in which case the player relates to the 'tool' not just as an extension but also as a subject; as a vicarious body, an avatar. The unpredictable destiny of the small plastic figures then becomes part of the game of make-believe; we may for example complain that our players have become 'injured' when they are knocked over – a not uncommon accident in those types of games, especially if the set is old and worn.

Because the avatar is an extension that is also a model, it is submitted to its environment in a way that the phenomenological concepts of extension and tool-use do not account for. In computer games, the concept of the tool may capture the functions of a mouse cursor, but not the 'functions' of Mario in *Super Mario 64* (Nintendo 1996), who definitely belongs to his environment in all sorts of possible ways. Most importantly – and representing the ultimate symbol of 'avatarhood': Mario can 'die', thereby erasing or ejecting the player's fictional presence from the environment.

In computer games, the role of the avatar is accentuated, expanded an elaborated to such an extent that traditional avatars almost seem like 'proto-avatars' in comparison. The action adventure format, in particular, presents a paradigmatic model of what avatarhood is essentially about, as the avatar is acutely submitted to a distinctly hostile and dangerous environment. In the action adventure, nobody

is going to mistake the avatar for a mere extension or a tool, simply because the task of staying alive would be (in most cases) the principal challenge that the avatar faces.

Which brings us to the final function of the avatar that needs to be pointed out: unlike an instrumental extension (a tool), the avatar does not expose our actual bodies to the environment; it only exposes itself, as a *vicarious* body. In contrast, a walking stick, a tennis racket or a car extends the functioning of the body directly and sets up a new bodily space which could potentially hurt it. Perceptual tools do extend and transform the 'incarnated mind' of the body, but they do not *themselves* mimic the position and destiny of an incarnated mind. In contrast, the avatar – say, for example, a radio-controlled model plane – has the capacity to project around itself its own bodily space. Therefore, while it does mediate the agency and perceptions of the body (and as such functions as an extension), it does not subject the actual body to the aerial ecology that it mediates. This is a different kind of 'tool' than what is described by Heidegger and Merleau-Ponty; the whole point of engaging with an avatarial extension is that it is subjected to and resides in its environment on behalf of the player.

In avatar-based play, the environment is perceived via the vicarious body of the avatar, through which "Any substance, any surface, any layout has some affordance for benefit or injury". (Gibson 1986[1979]:140). The principle of the avatar offers a playful and exploratory mode of being-in-the-world; it temporarily transforms our situation on the level of perception and action, allowing us to try out and struggle with new kinds of bodies and bodily spaces.