

META: This paper is an early draft due to time constraints. The last part of the argument is woefully underdeveloped at the present stage, but I think the first part will serve to scaffold the Geertzian argument which I intend to make at the conference. Formatting and proper sourcing has not been implemented and everything needs revision.

Against autonomous simulation: video games as simulation and symbolic resources

Andreas Gregersen

Introduction

This article takes as its initial point of departure Aarseth's claim that "games are the art of simulation", and interrogates a more specific claim that game simulations can be simulations of nothing but themselves; this latter claim can be traced at least as far back as Frasca's proposal for a simulation ludology but has recently been made again by Giddings. To my knowledge, Aarseth's rather bold claim that "The computer game is the art of simulation" has not been contested directly. Thus, Giddings recent entry (in the Routledge Companion to Video Games) on simulation games seems to accept Aarseth's claim and outlines the concept and some underlying distinctions. In his exposition, Giddings picks up on two strands of Frasca's writings. The first strand is Frasca's definition of simulation:

"To simulate is to model a (source) system through a different system which maintains to somebody some of the behaviors of the original system. Simulation does not simply retain the—generally audiovisual characteristics of the object but it also includes a model of its behaviors. This model reacts to certain stimuli (input data, pushing buttons, joystick movements), according to a set of conditions." (Frasca 2003, quoted in Giddings 2014)

The second strand is the idea that simulations can be divorced from “the original system” mentioned in this quote: that simulations can, in effect, be divorced from actual reality. Frasca himself has argued along these lines elsewhere, i.e. that video games may model “imaginary systems” instead of actual ones (Frasca 2004, p. 93). Giddings, in a similar vein, argues a bit more radically that we should entertain the notion that “[video games] are dynamic systems in their own right whose representational/modeling aspects are incidental or residual, that they are not copies of something else” (p. 263). Giddings ends up with three answers to the question “What do simulation games simulate?”: “not always what we might first think”, “nothing actual” and “they simulate themselves” (p. 264). Note that this latter phrasing explicitly targets the genre of simulation games, whereas Frasca’s and Aarseth’s claims are much more general in that they target video games in general.

This article can be seen as an attempt to interrogate the ideas inherent in claiming that many if not all video games are simulations with special attention given to the statements by Frasca and Giddings, including his three answers to the question of what video games can be said to simulate. In the parlance of the call for papers for the POCG 2014, it seems that game scholars who agree with the latter statements would like to be free from the burden of representation or reference. Games are simulations, yes, but they need not be simulations *of* anything. Let us call this position Autonomous Simulation (AS). The implications of the AS position seem to go against most ideas of simulation, and perhaps against the core semantic meaning of the term – surely, simulation must be *of* something – and I will try to unpack this issue in the following. Along the way, I will make and try to back up the following claims:

- 1: Simulation is (still) a central concept applicable to many video games.
- 2: Frasca’s model of simulation is a good first step in need of some commentary and elaboration.
- 3: The representational aspect of video games is not at all incidental but absolutely central.
- 4: The idea of video games being a “copy” of something is a problematic way to discuss these issues.
- 5: Of Giddings’ three answers, the first one is by far the most useful general stance to adopt.
- 6: Video games, as part of symbolic resources within culture, can and do serve both as models of and for other symbolic resources and performances.

More specifically my argument will be that AS is untenable in two related ways which are connected. The first issue is that AS is premised on an incomplete notion of simulation. The input to this argument will be writings of simulation within the social and natural sciences as well as within game studies. The second issue hinges on seeing video games as an integrated part of the

manifold circuits of human culture, and this move thus opens up the issue into a much larger context. The primary input for this part of the argument is Clifford Geertz's analysis of symbolic resources which holds that such resources have a dual aspect to them: They are always and at once models *of* and models *for* something. My argument on the back of this is that AS is not just superficially problematic because it leads to semantic opacity and incomplete conceptualizations in the context of game studies and discussions of simulation. AS is also more deeply untenable from the point of view of the social sciences broadly speaking because it disregards Geertz's latter aspect of symbolic resources: Simulations may or may not always be simulations of something (depending on formal definition), but they are always by definition, as cultural resources, objects which can and will serve for someone as models both of and for something. Game studies should not struggle to free itself and its analytical object from connections to culture at large. From a pragmatic empirical point of view, we and our objects of enquiry are shackled to and deeply embedded within culture.

The structure of the remainder of the article is as follows. First, I distinguish between objects and activity as helpful heuristics. I then sketch a framework for understanding simulation as modelling and lay out the key terms and relationships of an agent-based model of modelling. I move on to discuss three related overall domains of simulation, namely scientific simulation, training and practice simulation, and finally simulation for the purposes of entertainment.

Objects and activity: simulations as modelling activities

An initial analytical distinction can be made which separates objects, including computer game objects cashed out as software and hardware systems, from human goal-related behaviour, including computer game play, cashed out as an activity. The first set of terms covers material and computational artefacts while the other covers the activities that are performed in relation to this class of artefacts. This rather banal distinction is primarily employed to establish the distinction between objects and related activities since this is important for what follows. I am aware positions within everyday academic practice as well as more formal enterprises within philosophy and the social sciences where it is argued that even this basic distinction is problematic, but I am going to be employing it as a heuristic throughout nonetheless. One reason for doing so is that the distinction is, to my knowledge, accepted and employed in most of the literature within game studies and in the literature on scientific modelling.

To move on to the concept of simulation, simulation can be and usually is cashed out in terms of models and modelling. In the context of scientific uses of simulation and their

relationships with models, Hartman distinguishes between static and dynamic models and argue that simulations make use of dynamic models and offers the following definition of simulation:

“A simulation imitates one process by another process. The basis of a simulation is a dynamic model that specifies – besides some static properties – assumptions about the time evolution of the considered object or system” (p. 98)

The content of this definition maps rather straightforwardly onto the object and activity distinction, and this will thus be assumed from hereon. If one says “This is a simulation”, there is the possibility that one could refer to both 1) a material and formal object and 2) an activity, but the distinction between model and modelling, however, should help clarify this issue. A model can be used to model something, and its status as a model is given by that fact that is in used activities of modelling.

Hartmann also identifies the following five “functions” of simulation, and this term is used to identify “the main motives to run simulations [in science]”. In close paraphrase these are as follows: 1) To investigate the detailed dynamics of a real process by way of simulation, 2) to develop hypotheses, models and theories, 3) As substitutes for experiments, 4) to support real experiments and finally 5) as a pedagogical tool to gain understanding of a process (adapted slightly from Hartmann p. 84-91)

At this point, the following definition-like proposition can be made with regards to simulation:

Simulation is an activity that scientists (and others) can engage in. This activity involves using a dynamic model as the basis for imitating one process by way of another process. This activity can have several related overall purposes.

This stipulates that simulation, by definition, involves a process, cashed out as a given system undergoing state changes over time. Simulations are further defined by a teleological relationship, which is one of modelling as a purposive activity. The simulation process could be said to serve as a model of some other process, but to keep terminology straight I would argue that we should see simulation as entailing the activity of modelling something, and not as a model of something. We can also see that there are two processes involved in simulation, where one imitates the other. In

addition, a given simulation necessarily models a specific process. The relationship between the simulation process and this other process is traditionally seen as that of model and target. On this understanding it is impossible, qua the definition, that simulations can be simulations of nothing: Every simulation has a target by definition.

An agent-based framework for simulation in social contexts

As complement to the previous section I would argue that there are benefits to seeing simulation as being dependent upon an intentional agent invoking the system and process *as* simulation. This position is defended at length by Ronald Giere (2009) in his analysis of models and modelling, and this is the position adopted here. Giere formalizes his own framework in the following manner: “Agents intend to use model to represent a part of the world for some purpose.” (Giere 2010). In my understanding, this works in the following way: An agent, prototypically a scientist in Giere’s framework, intentionally uses a model to model a specific relationship between model and actual world with a specific purpose. The “intentions in use” are thus on one level addressing the local and crucial concerns of establishing the specific relationship between model and world and, on a higher order level of intentions, tied to an overarching purpose of modeling. We can tie the notion of purpose to the already given motivations for running simulations, although it still remains an empirical question what motives actual scientists might have for using models.

Giere additionally uses the concepts of *similarity* and *fit* between model and target to describe the relationship between model and target. One of Giere’s main motivations for introducing agents is as follows: Similarity is, according to Giere, the best candidate for how models relate to the actual world. However, since everything is a little similar to everything else, we need some additional component to stabilize this relationship. This is where the intentional agent is brought in: His or her job is to specify in sufficient detail the relationship of fit between model and target. The upshot of adopting Giere’s position is that models do not model something solely by virtue of their own properties as objects. The activity of modelling is what allows a model to model something, and this activity is performed by a human agent. In this framework, the human agent is the one doing the actual modelling by employing a physical or otherwise existing model as a tool. The agent could at first blush be said to do the most important part of the job since he or she needs to clearly specify which parts of the simulation process we are meant to acknowledge as relevant – otherwise we might focus on whatever we wanted to in both model and target. In other words, the agent specifies both what will serve as model and target, and this intentional action includes doing

the heavy lifting of specifying a great deal of information, where the most important is to flesh out the relationship between model and target. The model models these particular aspects of the target in this particular way.

Giere's framework has at least two virtues. First, it is based in a thorough analysis of how models are actually used in natural science and related areas. Second, it allows one to break down simulation and modelling processes into several constituent parts and their relationships with each other. His own formulation is already a suitably general framework which will allow for comparative work across different kinds of modelling, but my suggestion is that we add one more component, namely Social Context (C).

Spelled out it yields the following proposition:

One or more agents intentionally use a model to represent specifics part of the world for some specific purpose. This activity is situated in a specific social context.

The resulting framework thus operates with the following necessary and significant components in modelling activities.

Agent (A); Intentions in use (I); model (M) specified part of the world (W) Purpose (P) Social context (C).

It would appear that the only thing we need to add here is the previously identified constraint that simulation is a particular kind of modelling in that it models processes. This yields the following proposition:

One or more agents intentionally use a dynamic model to imitate a specific process involving specific parts of the world for some specific purpose. This activity is situated in a specific social context.

And this proposition yields the following components:

Agent (A); Intentions in use (I); Dynamic model (DM); specified part of the world (W) Purpose (P) Social context (C).

As can be seen, I have replaced the terms for two placeholders here, i.e. the substitution of “model” with “dynamic model” and the term “represent” with the term “imitate”: otherwise the two propositions and components are identical.

I have already noted a very important point of Giere’s, namely that intentional agents can invoke many things as models – one of his examples is a scientist improvising using a pencil to represent a physical process. However, objects can also be explicitly and often elaborately designed to work as models of something – let us call this class of objects model artifacts. Model artifacts are thus to a large extent designed with their intended modelling activities baked into them, as is common with artifacts. This is important, since it means that the modeling agent (i.e. the person whose job it is to specify the relations between model and target and possible relationships of fit) is not working alone. One might argue that in contrast to the heavy lifting mentioned previously, simulation specification might in some cases actually be a rather light-weight affair in terms of effort, since the agent does not have to do very much but establish the relationship: The existence of a rather elaborate model should then take care of the rest. Since such models are designed to model very specific things, the agent can be said to merely adopt the intended usage of the designer of the model. In this case, the designer is doing almost all the heavy work involved. However, in addition to such sophisticated modelling tools which come with intended activities baked in, any person using such a model is also performing the job of modelling while embedded in the specific social context where the modelling takes place. We will now turn to a preliminary analysis of such social contexts.

Simulation in different contexts

This next section argues that we gain additional benefits from taking seriously two connected propositions, namely that 1) simulation activities are performed in a range of contexts and 2) these activities tend to have different overall aims. The first of these propositions is an empirical fact, the other is an inference based on these empirical circumstances and the literature surrounding them.

An initial distinction could be that between scientific simulation, educational and training uses of simulation, and entertainment uses of simulation. One problem here is that these uses of simulation are obviously not entirely exclusive, but I would argue that the practices and the related aims are often sufficiently different to warrant separate treatment. I should also signal that my working hypothesis is to try and get as far as possible with one single framework for

understanding simulation and modelling, so I will treat the three kinds of simulation as variants of the same overall type of activity. The general applicability across the three aforementioned domains is one way to interrogate this framework, so that is how I will proceed.

Science

Giere's main aim is to serve up a theoretical framework for understanding models and their use in the natural sciences. Certain elements of Giere's formula are thus straightforwardly identified when dealing with scientific modelling as a practice. The agent responsible for stabilizing the relationship between model and target is prototypically one or more scientists, with the possibility of an audience of other scientists who may subsequently enter into a discussion about the viability of the enterprise. Intuitively, one must also assume that for most uses of models in natural science the target is quite explicitly identified by the scientists doing the modelling. Without going into the considerable controversies related to how science is actually conducted, it would seem a bit off, if, confronted with the question of what the scientific model is supposed to explain, a scientist would reply "We actually don't know yet – we are still trying to find out what part of reality we have described with this model". This discussion is not a simple one, and I would like to signal that, in my understanding, this explicit specification of model and target relates mostly to the reporting of scientific *results*. The process of actual research may be much more loose and inductive, as some sources have argued. Overall, however, it seems highly uncommon for natural science to deploy models without specifying a target in the real world.

One particular kind of scientific simulation is that of the experiment. In natural science, a model is thus often used to simulate processes related to circumstances which are impossible or too costly for real world investigation, as in the case of earthquakes, tsunamis, atomic detonations etc. In such cases scientists use dynamic models, i.e. simulation objects, to simulate a relevant *physical system* in the actual world. In the social sciences, and especially psychology, experiments are employed to a controlled experiment can be said to model and thus simulate particular aspects of the human life-world, i.e. a *social system*. In both cases, the scientists are doing the job of identifying model and target and the specific relationship of fit.

Another thing, which will be especially important later, is that scientific simulation and modelling necessarily has to make use of some kind of representational format that allows scientists to keep track of the state changes in the dynamic model. For computer simulations the output may be in the form of raw numbers and text, but for more complex computer simulations the

output is often some kind of visualization. This complicates the agent-based framework a bit, but in the case of scientific computer simulation I would argue that this fits under the rubric of using particular representational aids to scaffold the central purpose which is that of establishing and investigating a particular relationship between model and reality. This type of activity should thus be seen as implicit in the scientific use of computer models.

A final and important point is that science is fundamentally committed to *realism* in its modelling of actual reality. With the exception of theoretical physics and math, the prototypical scientific endeavor is thus strongly committed to realism and this leads to a major constraint on the domains of targets, in that the target needs to be one which exists in the actual world. To summarize in propositional form:

Scientific simulation involves one or more agents, who intentionally use a dynamic model to imitate a specific process involving specific parts of the world for some specific purpose, predominantly improved competence within the sphere of science. This activity is situated in a specific social context.

Education and training

There is one initial and important difference when we compare this domain to scientific modelling. While we can grant that all simulation by humans are conducted within actually existing activity systems, the system being modelled within the modelling activity system in education and training is typically itself an actual human activity system. Thus, both model and target systems for most training are best seen as *human activity systems*. In pilot training, the model of the airplane is not just used to model the behaviours of an airplane to understand airplanes better: rather, the airplane model is deployed as one component of an overall activity system put together to scaffold learning within an activity domain, in casu piloting a plane. The agent responsible for the stabilization of the relationship between model and target is arguably the person who has designed the whole activity system as a system that scaffolds learning, but we should allow for the persons taking part in the simulation procedure also having a say in this. We should also note that the overall purpose is predominantly oriented towards active competence in a future scenario, not just explanation or prediction. One prototypically trains to perform better in the future.

With regards to education and training uses of simulation, it seems highly improbable for a target-less simulation to be part of standard practices. The explicit aim of most training simulations is thus to increase knowledge and active competence in relation to a situation or a set of situations that could occur in the real world. The standard fire drill is one example, but we can also point to the elaborate training simulations employed in the aviation industry, in the military and in the health sector. As with scientific simulation, the default mode of simulation as a training activity is thus to be highly explicit about the target and claim relevance for that target specifically.

As can be seen from the previous remarks scientific and education and training simulations both tend to adopt the constraint of actuality already mentioned in that, for both domains, it makes little sense to model or train for nothing in particular. The main exception to this in training and practice is the well-known decomposition of larger activities into smaller bite-sized exercises, but I would maintain that such exercises, for instance practicing a mixolydian scale or a particular kick, always serve the overall purpose of improving a future performance within a particular domain of activity. It is also worth emphasizing that both types of activity domains seem to share important parts of their structure when looking at them through the agent-based modelling framework: Simulation is prototypically deployed with an explicit target in the actual world and with clearly identified agents serving as stabilizers of the relationship between model and target. This relationship is usually well known to most of the participants.

Education and training simulation involves one or more agents, who may or may not intentionally use a dynamic model as part of an overall imitation of a specific process involving specific parts of the world for some specific purpose, predominantly improved performance within a specified sphere of activity in the actual world. The simulation activity is situated in a specific social context. The simulation activity understood as a performance within an overall activity system is the process by which another activity system is modelled.

One might argue on the basis of this that, except for the part about education and training always focusing on people, there are actually no important differences between the first and the second category of simulation: After all, most people see education as working in tandem with science, especially when it comes to higher education. One might thus argue that the prototypical uses of models in education and training are covered by the uses contained within the spheres of science,

but that the latter extends a general method of simulation to the manifold contexts where education and training simulation might be used. In other words, increased competence broadly speaking is exactly the main purposes for which all simulations are deployed. If one holds such a view, it should be obvious that this identifies a major difference between this general use of simulation and entertainment uses of simulation.

Entertainment

The third and final use of simulation in society is that of performing simulations for entertainment purposes. While games scholars may or may not hold strong opinions on the uses of simulation within science, one might expect this to be somewhat different when it comes to games. I hope I am not stepping on too many toes when I apply the label of “entertainment purposes” to identify a prototypical usage of games as a widespread activity in society. I should probably emphasize, however, that I do not use this word with any pejorative intent and that I intend the term as an umbrella covering variants of playful behavior, explorative behavior, experimental behavior, as well as imaginative leisure activities and serious leisure. For those finding this too broad, I admit to being skeptical about restricting the use of games to be the activity of play or gaming, whatever the latter is supposed to cover. For those still finding the entertainment angle too narrow, I would argue that computer games should be seen as just as sophisticated as other popular arts (and probably much of fine arts), and that computer games may have just as profound effects in society as painting and literature. Ultimately, the circumstances surrounding the production and consumption of the vast majority of games allow us to fit them quite well within the cultural industries and possibly, as many have argued, within media and communication studies as well. These latter domains offer differing perspectives, of course, but for the sake of the present argument they tend to deliver similar results – in any event, that is what I will try to demonstrate.

A final important point here is that video games are consumer products which may and do tend to travel across contexts. Formalized in the revised agent based model, we get the following proposition:

One or more agents intentionally use a video game which has as its central component a dynamic model which imitates a specific process involving specific parts of the world for some specific purpose. This activity is situated in a specific social context.

Before moving on, I will make some remarks about the intended scope related to the domain of video games and these remarks will serve to revise the proposition.

Restriction of scope: games employing virtual environments and cognitive embodiment

To constrain the following analysis, I will concentrate on the type of games that Aarseth (1993) has referred to as games employing virtual environments. I take this to pick out a widespread and internally coherent set of patterns in game design where audiovisual-tactile representations are used to represent a virtual layout with objects and agents situated in the layout. The user of such a game system is given the opportunity to project his or her intentional agency into this virtual layout. This projection of agency is most commonly done through a physical interface that maps player actions to state changes in the underlying dynamic model. In his generalized cybertext model Aarseth (1997) distinguishes between the simulation engine and the representation engine as separate part of games architecture. The former is the dynamic computational model of the world, and the second is the part of the computer game code which is in charge of representing the state changes as perceivable for human interactors. The result is the aforementioned audiovisual-tactile representation of a virtual environment. Aarseth's specific usage of "simulation engine" should here be read as "virtual environment simulation by way of a dynamic model implemented by computer code". It should be noted that, as demonstrated in the section on education and training simulation, the total social activity system of a human interactor playing a game can be seen as a simulation of another activity.

One or more agents intentionally use a video game which has as its central component a dynamic model of a virtual environment. This virtual environment imitates a specific process involving specific parts of the actual world for some specific purpose, predominantly entertainment purposes. This activity is situated in a specific social context. The overall activity system might be seen as serving as a simulation of another activity system.

Fit between model and embodied interactor: iconic and symbolic modelling

With regards to the fit between representation and world I am merely going to sketch the position I am taking here: The standpoint could be said to be a generalized cognitivist position. In the context of computer and video games, the relevant fit between a representational system and the world is

actually not that of object and world. Rather, the main fit is that between 1) a system employing audiovisual-tactile interactive representations and 2) the embodied cognitive system of the interactor. Since humans have evolved to be able to interact unproblematically with the actual world there is a point of convergence where any system that imitates the workings of the actual world to a reasonable degree will offer reasonable fit with embodied human interactors. This also means that I am assuming that most, if not all, audiovisual popular arts such as television and film converges towards the same kinds of representational repertoire because they fit with human cognitive embodiment. The question now becomes how the representational output of the computer game system can fit with the embodied cognition of the user. I will here single out two primary ways, inspired in part by Max Black's (1962) overview of models and their uses.

The first representational fit is the one given by immediate sensory experience. This involves all of the senses (sight, hearing, touch, temperature, smell, taste, proprioception, vestibular sensing). Since game experiences are interactive, an extremely important fit is also that of the experience of action. My own take on these issues can be found elsewhere (Gregersen and Grodal 2008, Gregersen 2011, Gregersen 2014a, Gregersen 2014b), but here it should suffice to say that the experience of meaningful embodied agency in relation to the virtual environment is crucial. If we take the primary locus of interaction is to be the virtual environment, the first representational fit is thus one with the immediate sensori-motor experience of embodied agency in relation to a virtual environment represented through the modalities fitting the human sensorium. This immediate sensory experiential similarity to actual reality, a kind of "similarity on the face of it and in the thick of it", corresponds reasonably well with the notion of *iconic* signs in Peircean semiotics. If the representation exhibits iconic similarities with the actual world the fit will be experienced directly. In more pragmatic terms, if it looks like a duck, walks like a duck, quacks like a duck, and reacts like a duck when you try to shoot it or kick it, it probably is a (virtual or actual) duck.

Seemingly more thorny problems arise once we get to a more abstract function of models which is that of exhibiting *structural similarity*. In these cases, models don't have to exhibit any surface similarity at all. What the model needs, however, is to allow for identification of some kind of structural similarity between parts of the model and parts of the world. We can tie this back to the very beginning of the article and Hartmann's comments about static properties and dynamic models which set up relationships between these properties, or more technically the elements having these properties. The difference here is that the relationships between relevant units of observation are not immediately available to the sensorium but must be inferred and constructed to

a larger extent. Since this relationship is still one of similarity, Black sees this as an instance of peircean iconicity, but there seems to be a difference between similarities that point to immediately perceivable qualities and similarities which are more structural in nature. One might say that some of these similarities approach the peircean notion of symbolic signification since they may depend to a larger extent on arbitrary relationships. Since peircean semiotics holds that all signs tend to embody all three qualities, we can see how iconic and symbolic interpretations of models could work together to introduce a vast possibility space for invoked relationships between model and target. But even if we wanted to disallow symbolic interpretation and stick with the similarity constraints in iconic interpretation, we would not be much better off: It has already been mentioned that anything is similar to anything else in some way, so this gets us nowhere, only by a slightly different route. We are probably better off by biting the bullet and accepting that models, like all representations, can be interpreted as being similar to anything else and that this includes both immediately perceivable as well as structural similarity. This is more or less the premise for most theories of representation.

Autonomy for simulation: First pass

We might now return to our initial question of how one might claim autonomy for simulation in light of this. One option for the AS position would be to say that a game involving a virtual environment does indeed model something, but this something does not exist in the actual world. It is a fictitious or virtual world. The target is thus a possible world or a fictional world, not an actual one. This strategy has two shortcomings. First, it disregards the problem that representations may have various relationships of fit between sign and target. Everything is similar to everything else on some level. This means that one could argue that although the character models in a game like Call of Duty: Modern Warfare are virtual, they bear a rather striking iconic similarity to real soldiers. As such, they have a reasonable fit with actual soldiers. Second and connected hereto, it disregards the symbolic properties of signs, in that the relationship with the representational target may be purely symbolic and arbitrary. It would not be unreasonable to say that due to the relationships discernible in Cod: MW, the game offers a particular representation of power and democracy on a more structural level. What I mean to convey here is that there is no principled way that a simulationist ludologist can say that a game cannot and/or does not serve as a model of something in the real world. What is necessary to make such an argument for similarity is merely to nominate the particular game system as a model of something else. Note that this does not say anything about the

quality of such an argument. But to exclude a given game from modelling anything besides itself seems to me to be based on arbitrary criteria.

Autonomy of simulation: second pass

Clifford Geertz (1973) has famously argued that symbolic resources play a double role. They are both “models of” and “models for” something. Not only do symbolic resources describe reality, symbolic resources also have a prescriptive nature – they show how things can be done and imply how they should be done. Every poem, every narrative and every piece of prose not only describes or narrates something to ponder, these symbolic resources also instantiates a prescriptive template for the same kinds of symbolic resources. We can imitate both the form and the content of symbolic resources and routinely do so, day in and day out. Every performance of a ritualized action is also a prescription for how to perform it next time. The argument is at once very simple and quite thoroughgoing. Within communication studies, the perspective has been adopted almost wholesale by James W. Carey, and I will use his formulations to describe the position in a bit more detail:

“A blueprint of a house in one mode is a representation is a representation “for” reality: under its guidance and control a reality, a house, is produced that expresses the relations contained in reduced and simplified form in the blueprint. There is a second use of a blueprint, however. If someone asks for a description of a particular house, one can simply point to a blueprint and say, “That’s the house”. Here the blueprint stands as a representation or symbol of reality [...] As “symbols of” they present reality; as “symbols for” they create the very reality they present” (Carey 1989, p. 23)

I think we should take this kind of argument seriously when researching video games. A general cultural perspective comes naturally to all video game scholars schooled within the social sciences, but I would hold that Geertzian analyses are relevant for any perspective that sees video games as a cultural domain worthy of academic analysis. The perspective warrants serious attention simply by virtue of having been introduced and elaborated upon by one of the most widely read and quoted figures in sociology and anthropology. It also warrants attention because it is, I would argue, a convincing theory of culture. Finally, it can be used to show how some of the debates and controversies within video game scholarship hinges on concepts and processes identified by this perspective.

Any video game can be nominated by someone as being a model of something else. This can be both as a model of existing states of affairs and as a model for future states of affairs, processes and relationships. If the nominator can point to reasonable iconic or symbolic relationships of fit between any game and the actual world, we should be prepared to take seriously such claims. If we find the arguments unconvincing, we should reject them. There is no special place for video games here – all symbolic resources are equal in this regard, and just because video games have an interesting ontological substratum does not mean that their representational layer is exempt from becoming part of culture at large.

An additional consequence of the “models for”-aspect should be visible once we consider that every cultural performance can be said to lay out the template for future performances. On the local level, video games are small “institutionalization machines”: They streamline action into generic patterns of interaction which become institutionalized across game genres into generic patterns of action. But there is no ontological divide between such gameplay performances and the rest of reality. There is no principled barrier between game representations and other representations, and there is no principled barrier between representations of reality and representations for reality. Every gameplay performance has the capacity to gear into the rest of reality, because that is how things work in the actual world.

Once we consider the above framework, any individual video game becomes rather virulent in its capacity for modelling, i.e. both as representation and as template for future activity. Every performance of playing *Call of Duty 4: Modern Warfare* plausibly models a world steeped in violence as well as future play performances, not just with regards to interactions with that particular material artefact, but with generic interactions in relation to other artifacts employing similar generic resources. The performance additionally models future interactions with game software in general and, indeed, future interactions in the cultural world at large by modelling future responses to future situations in the general terms of agents, objects and situations. This connection between game and world is not made in any simple and direct way, but in exactly the manifold and varied ways we should expect from the way culture works: In so, so many varied ways.

To conclude: There is no freedom from catching “simulation fever” – except perhaps by rejecting the biological metaphor and reinstating cognitive agency for players and scholars alike: it is impossible to completely stabilize and insulate any given symbolic resource from the cultural circuits it is already embedded in and from the circuits it may be recruited into by various intentional agents. We can invoke terms such as fiction, virtuality, and simulation all we want: we,

and the games we play, are always embedded in the production, maintenance and repair of actual reality. We might as well take this seriously and accept that simulations are never separate from reality since they are part of reality.