Playing Through: the Future of Alternative and Critical Game Projects

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ABSTRACT
This paper explores a number of experimental game-based projects (including *Tekken Torture Tournament*, *Painstation*, *September 12th: A Toy World*, *Under Ash*, *Desert Rain*) in order to interrogate the critical potential of computer games. Gonzalo Frasca's proposition this this potential arises from the nature of computer games as simulations will be evaluated with reference to Bernard Stiegler's conceptualization of the mnemotechnical forms humans have developed for the recording and interpretation of cultural experience. In this light, simulation will be compared to narrative and theatrical forms, the forms to which Frasca opposes it in his account of simulation as the "form of the future." We will see that the past of computer simulation, a past dominated by military techno-scientific developments, comes with it and must be considered in any theorisation of its critical potential as a cultural form.

Keywords
Computer game, simulation, narrative, theatricality, mnemotechnics, temporality

INTRODUCTION
This paper explores a number of experimental game-based projects in order to interrogate the critical potential of computer games. This potential could be understood as the potential to interrogate the relationship of games to their contexts of production and consumption, that is, to the real in and through which they take place as games to be played. Games theorist and designer Gonzalo Frasca has linked this potential with the fact that computer games are a simulation-based form. This proposition will be evaluated with reference to philosopher of technology Bernard Stiegler's conceptualization of the mnemotechnical forms humans have developed for the recording and interpretation of cultural experience. In this light, simulation will be compared to narrative and theatrical forms, the forms to which Frasca opposes it in his account of simulation as the "form of the future." In analysing the different ways the game projects under consideration construct critical gestures and user engagement, this paper will set out to show the necessity of complicating the view that simulation is both the only cultural form facing the future, and is only facing the future in its temporal orientation. We will see that the past of computer simulation, a past dominated by military techno-scientific developments, comes with it and must be considered in any theorisation of its critical potential as a cultural form.

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THEATERS OF CRUELTY

Two experimental game projects, C-level's *Tekken Torture Tournament* and //////////fur//// art entertainment interfaces' *Painstation 1* and *Painstation 2* attempt a critical interrogation of gaming culture by raising the stakes of playing the game. *Tekken Torture Tournament* is described on the C-level website as follows:

> *Tekken Torture Tournament* is a one-night event combining the latest video game technology, untapped public aggression and painful electric shock. Willing participants are wired into a custom fighting system – a modified Playstation (running *Tekken 3*) which converts virtual on screen damage into bracing, non-lethal, electric shocks. [17]

The *Tournament* has been run at a number of venues from 2001 – 2004.

The *Painstation 1* and *2* consoles allow for single or two-player contests in a tennis game modelled on the early console classic, *Pong*. [13] Pain is administered through both electric shocks and a small whip that is mechanically activated to strike the player's hand when the player loses a point. The *Painstation 2* boasts increased flexibility in pain administration, whip varieties and the inclusion of "different bonus symbols [that] appear on screen and result in multiplied pain, multiballs, shrunk bars [paddles], reversed directions etc." [13] The *Painstations* have been exhibited and played at a range of events, conferences and exhibitions from 2002-2004.

While both of these projects involve the technical modification of game consoles so that individuals have an altered encounter with gameplay, the theatrical nature of these game projects is central to their impact and their engagement with contemporary game culture—that is, with the contemporary audio-visual and technocultural milieu in which computer games have an increasingly prominent place. The exhibition of the game console makes the volunteer players part of a witnessed performance. Drawing on the practices of body performance work, and in particular those which include painful experiences for the performer(s), these game performances involve the audience in a dynamic of participant spectatorship in events and actions that challenge conventional frameworks for understanding and responding to gameplay. C-level's citing of "untapped public aggression" as one of the elements combined in the creation of *Tekken Torture Tournament* indicates the importance they place on this theatrical dimension to the work.

On the one hand—and literally, on the hand connected to the console—these experimental game projects turn on a modification to the technical equipment providing the game experience, a modification that increases the real world consequences of losing the contest. On the other hand this physical extension and intensification of the stakes of the game is what enables a theatricalisation of the gaming situation, or, rather, a major transformation of the already performative element of competitive console gameplay. This performance, usually dedicated to the creation of an affirmative spectacle of personal skill and the victorious execution of gameplay, is replayed and complicated in and as a staging of painful physical interaction including sadistically (and/or masochistically) motivated gestures and affects circulating between players and spectators.

The bodily commitment each project demands from the volunteer players is an explicit response to the widely perceived "virtual" character of computer gaming. Through this process, however,

the gaming situation is itself virtualized or, rather, theatricalized in Samuel Weber's terms. [21] That is, it is removed from the usual "real world" context in which competitive computer gameplay is taken as a familiar and recognized aspect of contemporary audio-visual, technocultural experience having predictable significance and outcomes. In other words, it is not allowed to take its usual place in the real. Its habitual occurrence is suspended, and gameplay is "put under a spotlight" temporarily, in the time of its theatrical staging by each work.

For Weber, theatricality is a process of creating a space or of "taking place" that subtends and enables theater to exist. While it occurs in the theater as traditionally understood, thearicality is not limited to the space of conventional theatre but is also to be found in other processes where "theaters" are created such as the military "theater of operations." As the military comparison suggests, this taking place is understood by Weber to be a "problematic localization" because it is always directed at "securing the perimeter" of a space that is intrinsically unstable. [21] This is because theatricalized space is always the space in which a certain scene is "staged," that is, actualized as both a determinate, local space and as one which is other than what, where and when it is.

The relation between theatricality and military operations is not irrelevant here. As "cruel theaters," these projects stage a military theater of operations playfully, inasmuch as the object of war, as Paul Virilio points out, is to create an environment for your opponent that is uninhabitable. [20] This is the principal winning strategy in the *Painstation* contests I witnessed, namely, to make your opponent leave the table. That is to say, the games within these performance artworks are either staging a scene of violent conflict—the *Tekken* fighting game as model for *Tekken Torture Tournament*—or, in the case of the *Painstation's* evocation of virtual tennis, a theatrical "re-materialization" of a more sublimated form of war.

What do these specific stagings of gameplay give us to think about gameplay as we usually perceive it outside their theaters of cruelty? For one, they gesture reflexively toward a computer game's virtual suspension of the real. As forms that simulate a space and a context of competitive conflict, the computer games that are the subject of these experimental works render an experience of contestation in the register of entertainment supposedly distant from the serious business and high stakes of real life conflict. The separation of entertainment and leisure activities from the sphere of the serious is, however, by no means unproblematic. These projects play a part in undermining the legitimacy of this separation. They each rework the space of electronically mediated competition. To play against an opponent is to take up a position within the technically determined milieu of computer-generated gameplay. That is, it is play in and through a virtual information space, a space negotiated via the characteristic bodily disposition of personal computing/console play. This requires engagement in a cybernetic circuit as a key node in feedback loops of rapid decision-making executed via a physical regime of local immobilisation enabling continuous micro-movements of eye-hand coordination. As I have characterised it elsewhere, this modality of interpellation into/as a key communications node between the input and output devices of a computing system reproduces the "primal scene" of cybernetics: the "man in the middle" of a mechanically enhanced weapons system. [4]

To reproduce a scene is not necessarily to repeat it identically. Moreover, as Bernard Stiegler points out (after Walter Benjamin), the act of reproduction is always the possibility of change, of differentiation, of invention. [16] There is, in fact, no other possibility of change. Computer games reproduce playfully cybernetic principals for improved control of systems and events.

Their critical, reflexive potential, as well as their entertainment value, depends on this capacity to both adopt the technoscientific heritage and modify it. The *Painstation* and *Tekken Torture Tournament* reproduce the *Playstation* entertainment system theatrically to invoke reflection on the ludic adoption of military technoscience in contemporary audio-visual culture. This reflection is made possible by the playing out of these theaters of cruelty, each time they are staged at a particular location. That is to say, design of the modified *Playstations* and the staging of the game tournaments incites participants to think about gameplay and game consoles and their historical relation to modern warfare and the history of computing. This does not mean, however, that the "content" of the game projects can be described and stabilised as a set of propositions about these histories. In this regard, Weber points out something crucial when he identifies a problematic that the process of theatrical "taking place" always sets to work. He says that a theatrical representation "depends on and is constituted not just by the objects it represents, but by the effects it produces: not just by its past but by its future". [21]

The future of the theatrical representation of the shared past of computer games, audio-visual culture and military technoscience in these two game projects depends on the speculations and imaginary projections they elicit from their future participants. These speculations will be about a past that has always already come before the participant in the work, inasmuch as he/she is an inheritor of the technocultural history it represents. That is to say, the past involvements of military technoscience and technoculture are, paradoxically but necessarily, "before" the participant's adoption of them in his/her particular manner; they will have been (in) his/her "future". This is why reflection on the past runs always and inevitably into speculation on the future possibilities arising from this curious future of the pre-existing past. As Weber has argued, the theatrical "taking place" sets to work this paradoxical, speculative reflection as constitutive of the potential formal, conceptual and aesthetic significance of events. The makers of the *Painstations* have indicated the speculative nature of their project on the "Concept" page of the "Old *Painstation*" website:

> Yes, the painstation does exist. And it's not only a construction, a machine, an automaton. No, it's rather the prophet of a future, not necessarily peaceful, but more-efficiency-civilization. [13]

The precise contours of this "more-efficiency-civilization" that the makers of the *Painstations* envisage (ironically, no doubt) in and through their creation could be the matter of substantial speculation. The point being, of course, that this is the point about this theatrical game project, namely, that it creatively reproduces a game technology and culture of use—influential within today's audio-visual entertainment culture—in order to speculate on the future of contemporary technoculture and "civilization" generally. To speculate on the future is first to make the means of speculation possible. This is something that Gonzalo Frasca will ascribe as a key element of the promise of experimentation with computer game design and form. This promise is in his view intricately bound up with the nature of computer games as instances of the simulation mode of cultural production that is becoming central to contemporary technocultural forms based on computing technology. In the next section we will examine this claim carefully because it seeks to identify the critical potential of computer gaming as such, that is, as simulational form. While the game projects we have discussed so far stage the distance between gameplay and "real life" in gestures that destabilize the habitual place computer gaming occupies "in" contemporary life, they do so precisely in response to the phenomenon of computer games as a predominantly simulation-based form which has come to pose its own questions about life now and in the

future. Frasca sets out to show how games could activate a critical force for change by modifying simulation's questions "from within."

SIMULATING THE SERIOUS

In "Simulation versus Narrative: Introduction to Ludology," Gonzalo Frasca puts forward an argument about the future of media forms based on the interactive simulation model underlying computer games (and other new media forms). [9] He states their future is tied to the fact that simulation deals in a futural temporal mode of user (player) engagement—a simulation, unlike narrative and drama, "is the form of the future. It does not deal with what happened [narrative] or is happening [drama] but what may happen. Unlike narrative and drama, its essence lays on a basic assumption: change is possible". [9] He outlines a scheme that could be represented as follows:

Table 1:

Narrative	→	Past
Drama	→	Present
Simulation	→	Future

Frasca argues we are only beginning to explore the rhetorical possibilities of the simulation form. Indeed, in this vision the future-directed modality of simulation opens up its own aesthetic development as a key element of the possible change it promises.

In another text Frasca argues that a key difference between traditional representational forms (such as the narrative representation of events) and a simulation is that traditional representation typically operates from the "bottom up", that is, from the specific situation general reflections are drawn. [8] In a simulation, however, a "top down" process operates in which the general features of a system are modeled so that various specific, "hypothetical" situations can be deduced or examined. This projective or experimental characteristic of the functioning of simulation is what makes it in Frasca's view the "form of the future".

Frasca's is a provocative and insightful gesture toward a possible other future for games and gaming as cultural activity beyond the already well-established parameters of commercial entertainment gaming. He focusses on simulation as key to this possibility, responding to the widespread perception that simulation technologies are the decisively new element in contemporary technoculture. This is an entirely justified and, even, essential move for any attempt to characterise the wider situation making itself evident in a range of phenomena associated with "new media" and their impact on contemporary audio-visual culture. Espen Aarseth neatly sums up the importance of simulation for thinking computer games in this wider context:

> The question is what is the essence of computing? If there is such an essence we could say it is simulation: that is the essence from Turing onwards. Games of course are simulations and computers are a prime platform for doing simulations. [1]

Frasca's insight concerning the futural orientation of simulation is, however, limited by its naïve apprehension of what simulation has to offer critical responses to contemporary mainstream

technoculture. This limitation can be articulated as two significant and related aspects of his approach to simulation. Firstly, the history of computer simulation is, as we have shown elsewhere, a history influenced substantially by military technoscientific prerogatives. [2, 3, 4, 5] These prerogatives are reproduced in gaming and experimental adoptions of simulation and, while it is important to point out (as we have done so above) that any reproduction is also the possible mutation or innovation of what is reproduced, it is no less important to understand the nature and conditions which impose themselves on the invention of the new as reproduction of a given heritage. In other words, if simulation is for audio-visual, computer-based culture generally the "form of the future" this is in large part because of a history of specific, enchained, military-industrial technoscientific developments occuring in and as a particular cultural history which must not be discounted in assessing the significance and potential of simulation in general. The defining moment of this history would be the development of the digital computer across a number of military technoscientific projects in the 1940s. Other key links in the chain would be the rise of cybernetics, the birth of "cognitive simulation" research (later to become the discipline of Artificial Intelligence), the introduction of computer graphics and interactivity in military flight simulation and the development of distributed interactive simulation networking software and protocols for multiuser, realtime simulation training.

Secondly, this forgetting of the past of simulation technology is echoed in the schematization of narrative, drama and simulation as forms whose predominant temporal user-engagement can be assigned as past, present and future. We have already examined how Weber's notion of theatricality disturbs the placement of drama in the middle of this schema; a theatrical taking place is fraught with an oscillating reflective-speculative solicitation of the participant in and as the present moment of the theatrical presentation. In Weber's terms, "securing the perimeter" is always part of the stakes of the theatrical event, however conventional the nature of the dramatic staging and performance.

Frasca indicates an awareness of the reductive dimension of this schematic conceptualisation of the temporality of different cultural forms elsewhere in his writings. In "Videogames of the Oppressed," Frasca criticises the overly Aristotelian dramatic orientation of the commercial gaming industry which he argues reproduces the "immersive" tendency of conventional entertainment forms. [10] He calls for a more Brechtian theatrical engagement of the gamer in a more critically active process of game design and gameplay. More precisely, he cites the work of Brecht-inspired Brazilian playwright and theorist, August Boal, developer of the "Theater of the Oppressed" as a major influence on his approach to simulation. [10] This alternative theatrical solicitation of the gamer would promote a reflexive gaming experience focussed on real social-political issues or questions by means of game play that encouraged reflection and intervention in the models underlying the game as a simulation system. This would alienate the player from an uncomplicated, "passive" acceptance of the game's simulation of some real or imaginary world and return him/her to the less assured process of "theatrical" taking-place (in Weber's terms) in order to produce critical reflections and speculations on the game's construction of the world—real and imagined, existing and potential.

In relation to the first term in this schema—narrative, drama, simulation—the viability of the conventional ascription of narrative as a form dedicated to the past also requires careful interrogation, inasmuch as it contributes to the determining of simulation as the form of the future. No complication or qualification of the placement of narrative in the schema is apparent in Frasca's work. In order to elucidate the problems of preserving the future for simulation we

will examine some experimental and non-commercial, "serious" game projects that answer (or fail to answer) to Frasca's call for exploration of the critical or transformative potentiality of simulation. This will enable us to identify how simulation engages the futural mode and where the past "is" in its experimentations.

Frasca's own *September 12th: A Toy World* (Newsgames, 2002) provides a powerful critique of the U.S-led war on terror by means of a parodic evocation of the legion of shoot-em-up web-based games that populated the internet in the period following the September 11th, 2001 attacks and during the ongoing U.S.-led "War on Terror" in Afghanistan and Iraq. [12] Users have a mouse point and click interface to target and shoot missiles at "terrorist" icons moving amongst "civilians" in a Middle Eastern-styled urban landscape seen from an overhead perspective. Terrorist icons carry guns and civilian icons do not. Identify the terrorist, put the cross hairs on him (always "him") and fire and forget. The designers have put a time lag onto the firing and delivery of the missile so that it is very difficult to "hit" the target and, in all cases, civilians and urban structures are also hit. In the countdown to the next missile becoming available, it becomes evident that more terrorist icons are generated out of the rubble produced by the missile strikes. If one does not fire (the only alternative to using the available interface) the number of terrorists seems to remain stable.

September 12th: A Toy World announces itself with a screen that states "This is not a game. You can't win and you can't lose…. This is a simple model you can use to explore some aspects of the war on terror." [12] It "answers" the numerous anti-terrorist java-script games that mobilise the shoot-em form in less parodic or reflective fashion, generating a political critique principally by means of its interruption of the expected routines of the target-and-shoot form of interface. The overhead point of view of the user elegantly evokes the remote control intervention of hi-tech weaponry in both its fallibility and its distantiation of the enemy from the space of the user/missile fire controller.

As a gesture to the future of gaming and simulation rhetoric, *September 12th* proposes a modulation of established game modelling of war in order to open up reflection on strategic, political and cultural assumptions latent in mainstream shoot-em forms. In this it lives up to Frasca's call for critical gaming that goes beyond a simple parodic appropriation of existing games. By contrast, this would be an apt characterization of the project of *Donkey John* (Boughton-Dent, 2004). [7] *Donkey John* is an advocacy game in support of East Timorese efforts to negotiate a better deal with Australia for sharing the revenue from oil and gas reserves situated in the Timor Sea. It cites the classic Nintendo hand-held game, *Donkey Kong*, substituting Australian Prime Minister, John Howard, for "Kong" and Timorese President, Xanana Gusmao, for the player avatar. In this game the force of the political critique is carried by an appropriation of a familiar cultural work, the Nintendo gameboy game and character, that substitutes the political figures as the "monster" (game challenge) and the player. No modification of the game model exists in this political game and consequently the game functions as an amusing, ironic reference to the "real situation" as a game of geo-politics and economic competition among unequal opponents.

In a similar vein, *Under Ash* and *Under Siege* (Akfarmedia 2002-2004) rely for their critical polemical impact on an appropriation of the existing commercal game format of the first person shooter. [18, 19] These games "invert" the expected scenario of a commercial counter-terrorist shooter by making the player avatar in these single player games a member of the Palestinian

Intifada battling against Isreali occupation forces. In my own experience, the impact of this reorientation in the brutal space of urban warfare is undoubtedly significant. The game developers state on their website that they wanted to provide an alternative leisure activity for Palestinians over 13 to one "previously filled with foreign games distorting the facts and history and planting the motto of 'Sovereignty is for power and violence according to the American style'." [19] They pursue this propagandistic goal, however, in what is basically a reproduction —in a much less forgiving register—of the generic spaces, game challenges and non-player characters produced in the standard game engines of commercial first person shooters.

Conversely, *September 12th* realises a situation imagined by Sherry Turkle (and cited by Frasca in "Videogames of the Oppressed") in which a new critical practice would

> take as its goal the development of simulations that actually actually help players challenge the model's built-in assumptions. This new criticism would try to use simulation as a means of consciousness-raising. [10]

This is an apt and concise summary of the project Frasca outlines in his discussions of the future possibilities of experimentation with the the existent forms of computer simulation. In this projected and partly instantiated future of critical production, simulation is a tool for promoting critical thinking about the differences between the modeling of a situation or phenomenon and the "real" thing in all its social and political complexity. In Frasca's terms, it imitates the way Augusto Boal "uses theater as a tool, not as a goal per se." [10]

If simulation is a tool of sorts, like theater, then so is narrative. From this perspective, narrative could be thought of as a technology for selecting, arranging and understanding experience—as an "interpretation machine". Whether by means of the production of imagined or actual historical event sequences, characters and milieux, what is decisive for our argument is the capacity of narrative works—mythical/religious or historical/realist, theatrical or novelistic or cinematic or televisual—to function as exterior forms of the remembering and archiving of human experience. Bernard Stiegler identifies narrative works as part of the mnemotechnics of a culture, by which he means that narrative works are dedicated, beyond the default memory-support function that every technical form has, to the retention of the experience of phenomena by living humans. [14, 15, 16] Mnemotechnics include the forms of language and writing (including narrative forms), and, the forms made possible by more recent technologies of analog and digital audio-visual recording such as photography, cinema, audio recording, video, digital audio-visual technologies, and information processing and database technics. Computer simulation is a mnemotechnical form combining elements from these technologies.

As a mnemotechnical form, narrative is always already futural in temporal orientation. In other words, precisely as a technics of *orientation*, narrative forms are ultimately future-directed. That is to say, the recording, arranging and interpretation of past experience produced and archived in narrative works—whether "really" lived or lived in/as imagined experience—is always accomplished with a view to the future. That is, first of all, it is produced to be read, watched, witnessed in the future for a prospective audience or readership. The narrative work has the function of explaining to this audience-to-come what happened before they came to be the audience or readership of the work. This function, that of orientation, links what has happened before to where I/we are today. Orientation is a reflective, interpretative, but also and ultimately projective process: "Where to go from here? What to do next? What to become?" are the

questions orientation is ultimately dedicated to answering. [16]

Consequently simulation cannot maintain a monopoly over other cultural forms for rendering human experience with regards to its capacity to engage people in their future. On the contrary, as a form which depends on the narrative mnemotechnical heritage, it is best understood as one which reproduces narrative's dedication to anticipating the future as change, potential, as the not-yet-determined. This is evident in the way *September 12th* operates as an ironic, critical reprise of simplistic modellings of military-political goals and challenges. A constant theme of the history of wargaming is at the heart of this operation, that of the tension between the historical record of warfare's complexity and unpredictability and the effort to model it in a rational simulation bracketing off part of this complexity for the purposes of predictive analysis. The dependence of each and every assumption in the war model on the historical archive of military conflicts produces this tension. These assumptions are literally unthinkable without the historical record.

In other words, it is because simulation is a particular, transformative reproduction of the narrative mnemotechical tool that it is dedicated to the future in a specific, experimental, "hypothetical" manner, one which may be critically cited via a selective iteration such as in *Septemter 12th*. Like the narrative form which is a key part of its own backstory, simulation, as a new mnemotechnic, draws on the past with a view to the future. What Frasca calls its "top-down" process of modeling a general situation draws on and synthesises the understandings arising from the heritage of "bottom up" narrative and historical syntheses of the experiences of the past. While narrative gestures toward the "general element" in the specific case in fulfilment of its orientational function, simulation mobilises the calculative reason of technoscientific modernity to schematically map out the "general situation" available for speculative hypothetical research.

The undoing of the simplistic schematisation of

Table 1:

Narrative	→	Past
Drama	→	Present
Simulation	→	Future

means that simulation must be thought of as a new form of mnemotechnic before its specific critical potential can be adequately apprehended. It must be understood as a process of exterior memorization dedicated to the orientation of the individual/culture in time and space, here, today and into the future. Articulated at this level of conceptual generality, this is what simulation shares with narrative and the theater. To recall our discussion of *Tekken Torture Tournament* and the *Painstation* projects, their theatrical staging of competitive gameplay is able to engage the spectator participants in just such an orientational reflective-speculative relation to computer gaming. Their critical potential is activated in the suspension of the habitual taking place of simulated conflict in contemporary entertainment culture.

Like theatrical and simulation-based experimental projects, narrative-based works can also generate a critical encounter with simulation. Although it also relies on a theatrical staging of simulation, the Mixed Reality Lab and Blast Theory project, *Desert Rain* (2000-2004), is one whose critical force arises from its historical reflection on simulation's role in recording and

understanding the real. [6] This is done as part of the work's larger ambition to investigate the blurring of the distinction between mediatised representations and the reality of the 1991 Gulf War. One views the work only as a participant in a "game" in which one plays as part of a team of six. The team members are assigned the goal of finding a person whose identity is described on a small magnetic swipe card. The person must be found through cooperative action with other team members in navigating a virtual space. The simulation providing this activity is a VR-based modified military training simulation. Having successfully achieved the mission goals (or not as was the case with my team's experience of *Desert Rain*) the team members move to a kind of "debriefing" room via a passage covered in sand. This final room in the installation is a simulated hotel room with six monitors activated by the swipe cards. Testimony from the "target" personnages, including a "solidier in Iraq," a "tourist," a "peaceworker" and a "BBC journalist," concerning their experiences of the war and its aftermath are played on the activated monitors. [6] This is a very rich and complex work that explores themes of the representation and the perceived virtuality of war in the era of contemporary media and virtual reality mediations. Its predominant mode of engaging participants is, I would argue, via solicitation of historical reflection on the war and on its representation. The staging of the VR simulation, which is the centrepiece "attraction" of the project as "new media art installation," is devised so as to isolate that simulated experience from the passage to the "debriefing" space, in which historical accounts of war experience are represented. Ultimately, the participant/spectator is asked to compare these accounts with their experience of the mediation of war in *Desert Rain* and in their own mediated historical experience. In what is no doubt a complex staging of the challenges faced by historical discourse in the era of contemporary media technologies—indeed more complex than I have been able to indicate here—*Desert Rain* explores the struggle of narrative forms of understanding to operate in a simulated theater of operations.

CONCLUSION

We have seen that critical engagements with simulation and with the question of the relation of simulation to the real can be found in different combinations of narrative, theatrical and simulation-focussed mnemotechnical exploration. It is crucial to remember the common orientational function of these three forms when approaching the question of the novelty of simulation as a "form of the future". First and foremost one must challenge Frasca's assertion that simulation is the "form of the future". Simulation reproduces the projective potential of narrative and theater in a modality bearing a pre-emptive force unknown in these other mnemotechnical forms. This force is derived from the calculative ground of modern rationality in which wargaming grew. Computer simulation developed out of the military techno-scientific occupation of this ground in the century of warfare. The full implications of this for an understanding of simulation must await a future articulation. We can conclude, however, that while the simulation form inevitably opens up the possibility of its inventive recreation in a reflexive mode, as Newsgaming's *September 12th* has certainly shown, its pre-emptive tendency should not be ignored in a celebration of the critical promise of the future of "simulation in general". It may seem necessary to forget this heritage in looking to an alternative future for the simulation "tool". I have argued that on the contrary this heritage must be remembered in/as core to the proliferation of simulation in contemporary technoculture, and, hence, to any adoption of it in the name of different futures.

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