THE ROUTLEDGE COMPANION TO MEDIA ANTHROPOLOGY

Edited by Elisabetta Costa, Patricia G. Lange, Nell Haynes, and Jolynna Sinanan

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7

THE DIGITALLY NATURAL

Hypomediacy and the "Really Real" in Game Design

Thomas M. Malaby

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7

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'Dumb Money' Is on GameStop, and It's Beating Wall Street at Its Own Game

GameStop shares have soared 1,700 percent as millions of small investors, egged on by social media, employ a classic Wall Street tactic to put the squeeze – on Wall Street.

Matt Phillips and Taylor Lorenz, New York Times*, January 27, 2021*

Wall Street clearly underestimated a generation raised on highly coordinated Friday night World of Warcraft raids.

James F. Puerini (@J_Puerini), Twitter, 8:49 pm, Jan 27, 2021

The "fuzzy logic" (Bourdieu, 1977: 163) by which human beings improvise in new situations with old materials has long been known to anthropology, and anthropologists often find themselves pointing to practical innovation when making the case for how practice (alongside materiality and representation) can be consequential in social life. In the early 2021 stock market event referenced above, with its remarkable lifting of GameStop's (and other companies') stock market value by a loosely coordinated "raid" (springing from the subreddit r/wallstreetbets), Puerini invites us to consider the ways in which digitally networked games may be particularly potent sites for the generation of such improvisatory dispositions, and this may be because games are an increasingly prevalent aspect of the infrastructures that "generate the ambient environment of everyday life" (Larkin, 2013: 328). If we are to acknowledge that games today – primarily digitally networked ones – are making their presence felt in such ways, is there something about the combination of digital technologies and games that has made this kind and scale of impact possible? Is it possible to ask questions about how digital technologies have influenced games without indulging in one or another kind of digital exceptionalism?

To answer these questions means taking seriously the possibility that the infrastructures of digitally mediated environments can become naturalized for their users, just as more familiar infrastructures, such as road systems, do. By "digital infrastructure" here I mean the relatively durable structures that enable and constrain social action through the design and implementation of a combination of material technologies and coded protocols. While I have generally employed the word "architecture" in similar ways, media anthropology has rightly suggested

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that "infrastructure" signals more effectively both the broader scale, in time and space, as well as the ambient or implicit quality of infrastructure (Larkin, 2013). But I recommend here some further consideration of how this taken-for-granted quality is achieved, specifically the extent to which it may depend on the remediation of game elements in digital media. It is easy to recognize that computer games make use of remediation, "the formal logic by which new media refashion prior media forms" (Bolter and Grusin, 1999: 273) – the remediations of elements from cinema, print fiction, and other media are quite plain – and in this chapter I suggest that we recognize and consider how this process also includes the remediation of elements from analogue game design.

The empirical work presented below is primarily illustrative, and relies on work conducted through the Digital Cultures Collaboratory at the University of Wisconsin-Milwaukee. Rather than undertake solely more traditional ethnographic work (such as participant observation with the players of games, or with their designers), this group has supplemented this by approaching the playing and close reading of both analogue and digital games as an opportunity to examine them as infrastructural propositions; that is, we see any game as a complex presentation of constraints and possibilities that can command player attention and generate interpretable outcomes. Games, therefore, are contrived projects of the social institution that makes them (usually a specific, historically and culturally located game company or designer). Our approach shares qualities with material culture studies in its focus on the artifact, and is meant to challenge the tendency to treat digital infrastructures as the ambient background for social action and offer theoretical insights applicable to extended, ethnographically informed work.

Whereas previously my focus has been on developing an approach to games that helps us account for their capacity to command attention and contribute to institutional projects, here I wish to focus on how digital infrastructures so easily become taken as natural, and ask two questions: First, what can we learn about how this happens by examining the remediation of analogue game design elements in computer games? Second, how do these gaming-generated infrastructures become ambient and persuasive in setting reality for a potentially wide range of digital activity and sociality? After discussing and illustrating game remediation, I turn briefly to the topic of ritual, one that I have found to be repeatedly productive for checking our thinking about the cultural form of game. In this context, our approach to ritual can help us think more deeply about how digital games find new ways to produce what Clifford Geertz called the "really real," the "aura of utter actuality" that characterizes everything that goes without saying; the bedrock understandings of how the world works that inform our action (1973: 112). My aim is to suggest that when we give the cultural form of game its due (as we have for ritual and bureaucracy) – that is, when we incorporate a robust consideration of game features into our analyses – we will be in a better position to undertake the ethnographic work necessary for understanding the increasing social impact of computer games and how they contribute to the digital structuring of reality.

What is at stake here is nothing less than the often-silent dispositions toward how the world *is* that inform how we act within and beyond digitally mediated contexts. As shown by the GameStop phenomenon, social action is always already proceeding from practical understandings of what constraints and possibilities exist, not only within one context, but across contexts. There is an improvisatory attitude implicit in our engagement with the infrastructures, digital and otherwise, that we encounter, and we furthermore extend the action we find to be reliable into other domains. For media anthropology this is vital, because it is about the relationship between, on one hand, the cultural forms long available for institutional use (bureaucracy, ritual, game) and, on the other, the various media, and now digital media, through which such forms can be deployed to engage subjectivities and contribute to the construction of the real. This

chapter is thus deeply indebted to several longstanding conversations in media anthropology, and especially to sections II and V of the landmark *Media Worlds: Anthropology in New Terrain* (Ginsburg, Abu-Lughod, and Larkin, 2002). Section II focuses on attempts to produce national subjects through media, while Section V pushes anthropology to look to the forms of media in all their materiality, most pointedly in Larkin's treatment of Nigerian cinema theatres (Larkin, 2002). In the collection, Richard Wilk, in his study of television and the national imaginary in Belize, articulated the common theme of several of these authors when he wrote of "the opportunity to think beyond programming and content to the form of the medium itself, to the way television constitutes a new form of cosmology and creates new social worlds" (Wilk, 2002: 171). Relatedly, Nick Couldry, a sociologist of media, asked directly of broadcast media how it contributed to the construction of reality, and looked to anthropology and its handling of cultural forms, specifically ritual, for insight into these processes (2003). I am inspired by that move, but wish to stay "closer to the ground" of mediated social action. The anthropological handling of both media and ritual have their best insights to offer when they provide the tools to delve closely into the practice and materiality as they unfold for participants.

Games and Remediation

For scholars interested in games, there has been a vexed fault line that has appeared to separate treatments of so-called "analogue" or "offline" games from "digital games." Digital exceptionalism in game studies is most visibly, and for scholarship consequentially, realized in perhaps the most active current scholarly association for studying games: DiGRA, or the Digital Games Research Association. There are nonetheless scholars who have sought to trouble this boundary (e.g., LaLone, 2019), and this group includes David Graeber, who meditates on how *Dungeons & Dragons* (D&D) resides in between the bureaucratically ordered structures of their rule systems and printed statistical resources, on one hand, and the contingency of their imaginative social play on the other. He goes on to raise questions about the digital remediation of game elements in the games that followed in D&D's wake. After noting D&D's peculiar mix of (anarchistic) free imagination and bureaucratic order (through its reliance on numbers to resolve events), he continues (2015: 189):

> Still, the introduction of numbers, the standardization of types of character, ability, monster, treasure, spell, the concept of ability scores and hit-points, had profound effects when one moved from the world of 6-, 8-, 12- and 20-sided dice to one of digital interfaces. Computer games could turn fantasy into an almost entirely bureaucratic procedure: accumulation of points, the raising of levels, and so on … This in turn set off a move in the other direction, by introducing role-playing back into the computer games (Elfquest, World of Warcraft …), in a constant weaving back and forth of the imperatives of poetic and bureaucratic technology.

Graeber seizes upon a transformation of media that demands our attention, a transformation of previously explicit elements into the veiled computation of code. His treatment tends toward a dichotomy, however, with Weberian rational bureaucracy on one side and the anarchy of free imagination on the other. What he does not take up is how analogue game elements such as the dice actually lie somewhere between these extremes. Neither bureaucratically determinative nor unbounded in their possibility, they are the tools for generating (stochastic) contingencies, the kinds of indeterminacy that, it should be noted, are anathema to bureaucracy (and digital computation, strictly understood).[1] In D&D, these stochastic contingencies circulate with other

sources of the indeterminate (e.g., player and Dungeon Master's [DM] performances, and their guesswork about each other), as well as the various kinds of constraints that we find in games. But even these constraints, we must remember, are not simply rules (the bureaucratic) in other forms. The material or architectural (battle maps, dice trays, miniatures, DM screens) are their own kind of constraint, as are the social conventions (however partial) that shape participants' behaviours.

With this in mind, Graeber's meditation on the shift from the analogue to the digital for D&D takes on new dimensions. Rather than a ping-ponging back and forth between bureaucracy and imagination, we begin to notice that analogue games often (have had to) present their contrivance in explicit ways, especially when it comes to elements that allow for the generation of stochastic contingencies. Well-shuffled decks of cards, spinners, and dice are just the most familiar examples of game design elements vital for the production of indeterminacy beyond that introduced by players' actions and guesses (as well as alongside external sources of stochastic contingency, such as weather – for outdoor games, or even "lag" for networked computer games). What happens when these elements, as well as constraints such as rule systems, are remediated in the context of digital and digitally networked technologies so as to be less explicit, and more a part of the game's infrastructure? To put it bluntly: Does the experience of playing games that have increasingly implicit constraints and contingencies transform the impact it can have on dispositions cultivated through playing and related claims about the real?

One of the digital games that raised these questions some time ago was *Take Back Illinois*, Ian Bogost's single-player, flash-based game produced for the Illinois House Republican campaign of 2004. Players encountered the game on the campaign's website, and four versions (sub-games) of the game were released, three highlighting a different policy position of its sponsor, while the fourth focused on demonstrating the potential impact of the player-voter's participation in the campaign. In the policy sub-games, the player was presented with a few city blocks (or the state, depending upon the version) in 2.5D, slider-like controls, several blocks of information, and a calendar representing time marching on. (There is also a striking be-suited figure, every inch an expression of white, male, establishment power, looming over the frame from the lower right. This is Tom Cross, the Republican Illinois House Minority Leader at the time.) In the sub-game built in relation to the party's policies on capping medical malpractice awards, several hospitals were prominent on the landscape, and avatars of residents could be seen moving about, each with an emoji over their heads indicating happiness, dissatisfaction, or illness. The ill residents could infect others as they walked about the city and hospitals, if doctors were available and incented to work in them. The sliders represented simple metrics for "Medical Research Support" and "Maximum Non-Economic Damages" (see Figure 7.1).

Bogost's own discussion of his game focuses on the potential games have for modelling complex systems and reflecting ideologies, which they certainly do have (Bogost, 2006), but for the purposes of this chapter this game illustrates the remediation of game design elements in a helpful way. While its maker, Bogost, has framed its political action as a kind of persuasion – that is, as a rhetorical move taking place in a different guise – I would like to suggest that this and other games that make use of implicit game elements are not best understood in rhetorical terms. Instead, I suggest that they operate much more like ritual in how they enact and verify a particular reality. But first let us consider remediation further, as its application for games calls for some special handling.

In *Remediation*, Bolter and Grusin devote one chapter to computer games and focus their discussion primarily on the ways in which computer games remediate elements from tv, film, and computers themselves (1999: 88–103). This is an understandable emphasis and is consistent

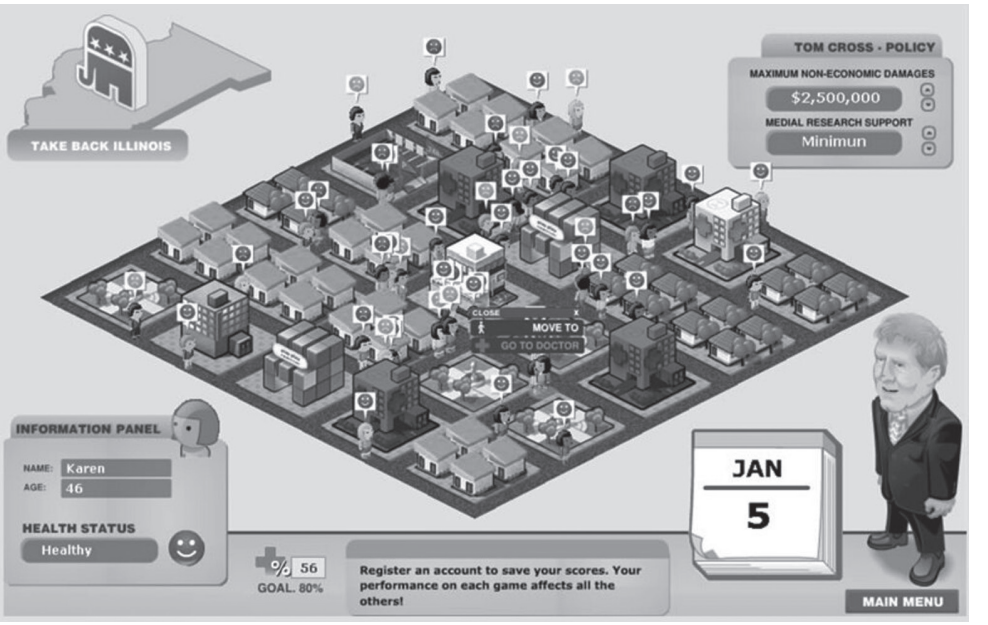

Figure 7.1 A screenshot of Persuasive Games' *Take Back Illinois* (medical malpractice version)
Source: http://persuasivegames.com/game/takebackillinois

with treatments of remediation elsewhere in the book. One of its effects, however, is that the discussion of player experience tends to hinge upon questions of visual fidelity and verisimilitude; in fact, the "player" is regularly replaced with the "viewer." At several points the authors do make note of the player's intimate involvement with the computer game through their input, but the overall discussion is framed with reference to television and film and the associations of these technologies with surveillance and monitoring (1999: 94). In this visual approach, two phenomena are central: hypermediacy, "a style of visual representation whose goal is to remind the viewer of the medium"; and (transparent) immediacy, "a style of visual representation whose goal is to make the viewer forget the presence of the medium" (1999: 272).

Grusin and Bolter join anthropologists in recognizing that, as I discuss below, at stake in the enactment of cultural forms like ritual and game is the construction of the real, but here this seems to be accomplished primarily through the transformations of visual experience: "Such games seek the real, sometimes through transparency and sometimes through hypermediacy – sometimes by encouraging the player to look through the surface of the screen and sometimes by dwelling on the surface with its multiplicity of mediated objects" (1999: 94). Notably, however, they do begin their chapter with an acknowledgement of how computer games remediate elements, and not necessarily visual ones, from games themselves (1999: 89), and in a later work Grusin extends this discussion with a consideration of mimesis and embodiment that leaves much of the bias toward the visual behind (Grusin, 2010).

It is this aspect of remediation that I suggest could be especially fruitful for anthropological considerations of digital games. What is at stake in the implicit incorporation (rather than explicit showcasing) of game design elements as they are remediated in digital games is, I suggest, something more than "(transparent) immediacy" (for a viewer). This phrase both accentuates the visual at the expense of these other considerations, and also misleadingly

suggests that mediation could ever be wholly absent (immediate). If "hypermediacy" is "a style of remediation whose goal is to remind the [user] of the medium" (1999: 272), then here I would offer the term "hypomediacy" to pair with it, meaning the style of remediation whose goal is to conceal the medium from the user. Successful hypomediation in computer games and other digital contexts may be part and parcel of how their infrastructures become naturalized for their users. The advent of speech-driven interfaces (Alexa, Siri, and others) is perhaps the most common example of hypomediation as of this writing, and have for many users become naturalized infrastructures, ones that open up a vast array of opportunities for new institutional projects in even more intimate spaces. We can also note how the first-person perspective used in many computer games, but especially "first person shooters" (and, notably, also Pokémon Go), has served as a hypomediation that can be found in now-ubiquitous mapping software (such as GoogleMaps or AppleMaps). But can we say more about how such infrastructure, with the constraints and possibilities it offers for social action, involves the players of computer games in the production of the real?

Ritual and the Real

In attempting to answer such questions about how infrastructures help to produce the real, I have often found myself drawn back in time in our disciplinary conversations, if you will, than forward, and most often that has been to anthropological treatments of ritual and performance. Our discipline's long-fruitful approach to ritual can serve as a paradigm for how we may best approach a different cultural form, that of the game, provided we are ready to acknowledge ritual and game as peers, in a sense – ontologically on a par with each other (and perhaps with a third, bureaucracy).[2] While ritual and game differ in key respects, one of the great virtues of anthropology's approach to ritual has been how we long ago de-coupled our handling of particular ritual events from any determinate effects on participants; in short, anthropology treats rituals as fraught and provisional projects, any instance of which may succeed or fail. Games, of course, share this quality, but with a distinct and explicit commitment to producing such contingencies – without them, the "fix is in" (the game has been rigged) and the game becomes invalid (Malaby, 2007).

What is more, Clifford Geertz, and later Edward Schieffelin, drew anthropological attention to how ritual, as a cultural form, can verify – through its performance of cosmic orderings in the practice of the messy everyday – institutionally sponsored claims about the "really real." This performative construction of reality was, as Schieffelin stressed, not simply a matter of powerfully imparting symbolic information. It was accomplished through the concrete realization of an account of the world, as an active process of creation by its participants not reducible to one dimension of representation, practice, or materiality. And while certainly subject to various contingencies, rituals – as Lévi-Strauss recognized (1966: 31) – on the whole aim for something other than the surprise inherent in games. (In this discussion, I follow Schieffelin in taking a performative approach to ritual. For a full definition and discussion, see Tambiah, 1985: 128.)[3]

As Schieffelin makes clear, the constitution of the "really real" (almost always a project of a sponsoring institution) occurs along several dimensions, but the one to highlight here is the "dialogic" dimension – the back and forth between the audience and the enactors. As has been mentioned, the line between ritual and game is not absolute, and one way in which it is blurred concerns the ways in which ritual can, like games, make performative demands on its audience. This is common in rituals with the element of spirit possession, as when a medium becomes possessed by a powerful spirit, one that can perform cures of ill community members or provide

information to participants. One such dialogic exchange that Schieffelin explores concerns the whereabouts of lost pigs, using his own ethnographic data from the Kaluli of Papua New Guinea (Schieffelin, 1985). After providing an overview of the limitations of viewing ritual's impact in purely representational terms, and giving a brief description of a Kaluli séance, he concludes (1985: 712):

> Understanding what is happening here, however, is more than a matter of showing that the séance provides a logically and symbolically plausible resolution for a problematic situation. It is also necessary to show why the Kaluli accept what they see in the séance as a convincing, even compelling, reality. That is, the question addressed here does not concern the content of Kaluli spirit belief, but how these beliefs are brought to life and galvanize social reality.

What follows is an extended discussion of the elements and practices that, as an unfolding process, contribute to the ritual's construction of the real. Because it relates directly to how computer games pose performative challenges for their players (and for the sake of space), I focus here on just one of Schieffelin's points of analysis. In the Kaluli séance, the information provided by the medium to help find the lost pigs is "markedly ambiguous." As Schieffelin describes (1985: 718):

> During one séance I observed, the medium's spirit child was sent to locate a missing pig described as a female with cropped ears and a white patch on the chest. Returning to the séance, the spirit later declared: "I saw the pig but I do not know the name of the ground." He went on to describe a place where a small brook ran into a larger creek with a particular kind of sago palm nearby …
>
> On the following day when the pig owner visited the place designated by the spirit he did in fact find a female pig with cropped ears and a white patch on its chest. But it was the wrong pig. The pig he was looking for was much larger and he returned disgruntled to the longhouse.

Following this disappointment, the audience takes up the question again, disputing the river previously suggested and substituting a different one they feel is more appropriate. After this change, "the various details suggested by the spirit were sufficient for the audience to piece together a picture and reach a consensus about where the pig was located," and "the séance participants doubtless felt that they had received it on spiritual authority, whereas to a Western observer, it appeared that they had constructed most of it themselves" (718). Schieffelin concludes:

> This event epitomizes the process of the social construction of reality in the séance. The spirit imparts information at once clear and ambiguous and the audience is induced to determine exact locations … That is, as the people search for clarification of the spirit's message they create the meaning they discover.
>
> *718–719*

This co-construction of reality, achieved through the contingent (game-like) performative action of the audience, mirrors the discovery of the "truth" put forth implicitly by Bogost's *Take Back Illinois*. If we take a moment and consider, as an ideal type, no longer a ritual performer and audience, as was Schieffelin's reference point, but instead this encounter between a single

digital game player and that game, we can wonder to what extent these roles have been distilled and reversed. The player is both audience and medium, through practice becoming familiar with, and able to affect, aspects of the world such as how caps on medical lawsuit damages influence the availability of doctors.

In contrast to ritual, games place contingency and the challenge of performative action centre stage. They constantly generate, as a matter of course, the performative challenges that Schieffelin saw as constituting part of some ritual events. Is it the case that, just as *TBI* implicitly constructs a reality claim about Illinois itself through its architecture's encounter with the player, similarly hypomediated games propose a set of claims about reality that are potentially enacted through their play? The game designer, perhaps initially imaginable as the "performer," has in these cases mobilized game remediation to diminish the signalling of contrivance, and thereby to bring the game's infrastructure of constraints and contingencies into potential alignment with the unbounded open-endedness of our experiences in more "naturalized" contexts. One widely experienced example of this was the advent of motion-sensitive controllers, such as the Nintendo Wii, which, with varying degrees of success, sought to align analogue bodily movement (such as swinging a bat, or sitting still in meditation) with their digital hypomediation. With these insights from the study of ritual in mind, we can return to the question of how analogue elements of games are remediated in computer games and draw deeper conclusions that can inform future research.

From Explicit to Implicit Participation

Explicit mechanisms – for example, written ("official" or "according to Hoyle") rules, concretely bounded fields of play, and stochastic tools (such as markers, dice, and spinners) – have played a central role in the history of games. They have been central to the ways in which games, rather than representing a starkly cordoned-off arena wherein things unfold in unique ways, instead configure and contrive, within arenas that are at most semi-bounded, the *same* types of constraints and contingencies that we encounter in our (unbounded) experience elsewhere. Games that command our attention are games that calibrate pattern and the unexpected just so, as Natasha Dow Schüll has demonstrated in her work on the production of video poker and slot machines (2012). But in most analogue games, throughout most of human history, these contrivances have been obvious, participatory, and vulgar in the original sense: rules are learned, applied, and enforced; game spaces are constructed and maintained; and mechanisms that generate contingency beyond the players' own contingent performance are manipulated and deployed directly.

In *TBI*, as in virtually all computer games, we may notice several things about the hypomediation of these game design elements. I will discuss each of these briefly, but first I note that the discussion here is of ideal types; that is to say, I am sure that many readers will be able to imagine examples of computer games (or analogue games) that trouble these observations (as well as that very distinction), but the aim here is precisely to get us thinking about what these ideal types of games owe to each other. After all, today's analogue games are themselves already remediating digital game elements (Matt Leacock's popular board game *Pandemic* is filled with the imagery of a digital game interface), although consideration of this is beyond the scope here.

Disappearing Rules. First, in *TBI* gameplay does not proceed through a process dependent on the "rules"; that is, there are no written rules to be learned and consulted, to be applied and enforced, to stand ready to be mistaken as "the game" (in the same way in which a score for Brahms' 2nd symphony could be mistaken for the symphony itself). Written game rules, in the Western tradition, have come to occupy an outsized place both in lay understanding of

what games are and in scholarly research about them, leading to the strange situation (much like with the Brahms symphony) where one must actively remind researchers that games (like symphonies) only exist in their playing (see Malaby, 2007, 2009 for discussions of these issues and several examples).

This "misplaced concreteness" (Lambek & Boddy, 1997: 5) about games has not only worked very much against developing robust accounts of games and their significance, but it has also worked to obscure the role of written technical knowledge in institutional projects that seek to establish legitimacy and power. What kind of authority, when one thinks about it, do rulebooks for games have, and where does it come from? More to the point for this chapter, by learning and applying (and possibly modifying and rejecting) rules, players participate in a form of governance, enacting that government through their negotiated, social practice. Rules give them an opportunity to regulate, but also to "situationally adjust" (Moore, 1978). When, by contrast, the rules that dictate proper versus improper play are remediated, through digital code, into the much harder, infrastructural constraints of computer games (although never perfect; see Consalvo, 2007), the "givenness" of those rules becomes implicit in participating in the game at all; it is no longer produced through the social action of its players explicitly. Players of *TBI*, through playing *TBI*, enact implicitly the reality and legitimacy of what had been its rules.

Absence of Setup. Second, and relatedly, participants do not need to enact the material constraints of the game (such as through setting up a "field of play" or other distinct physical arena and its arrangements). As with the rules, to design a computer game is to construct the infrastructure, the durable conditions (including constraints and contingencies) under which player action can take place. What may have required governance by rules in a game like, say, *Monopoly*, is now taken care of materially. But even a computer game's materiality is not created in the same way as *Monopoly*'s material elements: the board, the tokens, the property cards, and so on. The handling and set up of these materials in the original game is also an occasion for the social production of the game, an event which itself highlights its contrivance and how much it depends upon human attention, negotiation, and effort – it is "hypermediated." In many computer games, such as *TBI*, there is no call for the pre-production that can contribute to the framing of the game as socially contrived and intersubjectively constituted. Instead, participation in these games has more of a quality of "thrownness" (in the Heideggerian sense; see Jackson, 1989); that is, players are in a sense thrown into a world not of their own making.

Attenuated Negotiation. Third, in most computer games there is no ongoing negotiation of expectations between players, as (in a game like *TBI*) the player has no contact with other players, or limited ability to raise questions of governance and adjustment when they can make such contact. Nor, should we note, is this unique to computer games; any solo ("solitaire") game has this quality. But in computer games the comparative absence of participatory preproduction and regulation, noted above, means also that the player is presented with a given landscape with which the player must contend. The infrastructure of the game is itself inscribed with the implicit value commitments of its creators, but that implicitness means that the ethical encounter between the player and the game producers occurs in a form similar to that which fascinated Michel de Certeau (1984): between the tactical, creative actor and the strategic, proper space-making institution.

Implicit Contingency. Fourth, in computer games like *TBI*, no turn to activating and consulting stochastic mechanisms (such as a spinner) is necessary; random events are handled by the code.[4] In *TBI*'s case, we can see this contingency's effects in how the simulated residents may infect each other as they move about the city blocks. When contingencies such as this become part of the background conditions against which social action takes place, a significant step, I suggest,

has taken place: something like the "background of indeterminacy" that characterizes all human experience (Moore, 1978) has here an additional layer produced by the hypomediated handling of contingencies by the computer game's code.

I propose that in all the ways listed above, but perhaps especially in this folding of stochastic mechanisms into the background of an arena for performative action, the hypomediacy of many computer games makes them more potent sites for claims about the "reality" the player's performance helps to produce. Analogue games, then (again, speaking broadly) correspondingly tend to exhibit a kind of "hypermediacy"; that is, analogue games draw attention to their status as contrivances by making use of artifacts with only an arbitrary relationship to the interpretations of game outcomes. Interestingly, there are many examples of computer games and game-related environments which have remediated game design elements such as stochastic mechanisms *explicitly*. An example of this would be graphically animated (with apparent "desktop" physics and sound effects) dice-rolling within a browser window (such as on the D&D site dndbeyond.com). This kind of hypermediacy represents a turn away from the unbounded naturalization potential of hypomediacy in favour of engagement in a style that evokes the manipulation of physical objects. Such examples demonstrate the level of investment by designers (and significance for users) of these aspects of computer games and cry out for more analysis.

To summarize, I suggest that we need to push our exploration of remediation in games in three directions. First, we must be ready to think more broadly about what is (re)mediated. Games demand attention to their specific design elements, which are both ancient and ontologically distinct from what we find in other media (visual or otherwise). Second, we must be ready to look at the micro-level and become historical as we trace which elements are remediated in which ways, and as against what institutional projects. Third, we must avoid drawing *a priori* conclusions about the consequences of these remediations for their players. I have done so above to a certain extent, and thereby risked overdrawing these contrasts and interpretations, but I have done so for the sake of illustrating the specific kinds of remediation that attend digitally networked games; there is no doubt that ethnographic analysis would be required to ferret out the extent to which we can find illumination in these terms. But to attach these ideas more firmly to the anthropological tradition, I will close by identifying some of the ways in which our study of ritual can serve as a paradigm for thinking about how remediation in general, and hypomediacy in particular, in games may drive their potential for use in the infrastructures of today.

Conclusion

I am interested in the work that games are doing, in close relation to the verb-sense, particularly the work they are doing for institutions, after a great deal of time in which they have been largely unruly. They constituted a largely threatening presence, as in the underground national lottery of Brazil as described by Amy Chazkel (2011), and of course the Olympics of 1936 and other years are also classic examples. Today, however, games are coming to heel, as it were, becoming more and more tractable for institutions, and the material affordances of our digital circumstances have played a core role in making this possible. While power and institutional interest are not foregrounded in the preceding, they are at the heart of the approach to games and remediation that I recommend. As Geertz and Schieffelin understood, cultural forms are available for sponsorship and use as part of institutional projects, and my suggestion is that digital games fit more readily to that institutional hand than the hypermediated games in the past.

The recent history of remediation of games may illuminate this story. While I have focused, in a "micro" sense, on game design elements, these remediations involve those recognized by

Grusin and Bolter as well as others concerning networked communication, often with roots in technical practice around early computing. Soon after the rise of professionalized game design in the twentieth century came networked and digital communications infrastructures, and game designers in computing soon grappled with two significant remediations. In one, they drew from how tabletop roleplaying games like *Dungeons & Dragons* transcended the idea of games as bundles of rules in order to architect systems that were vastly more complex and open-ended. These systems became the basis for so-called "sandbox"-style computer games – whether for one player, a few, or many thousands – and beyond this continue to shape the design of complex social environments throughout the internet.

In the second, and relatedly, they developed infrastructures for inter-player and player-system communication that drew from a range of existing media conventions, often combining them in new ways. Elements that can be found in Twitch streams (for example) today that remediate these other forms include: synchronous, text-based chat (including emoticons/emojis); textboxes for the streaming of game events (and related code); livestreaming of audio and visual media; and game interface design (such as maps, character portraits, resource bars, and the like). What is more, this bundle of remediations is now to be found in a vast array of contexts beyond Twitch and other game-related domains, including education management software (Canvas), team communication software (Slack), and large-scale social media (such as Facebook), to name a few.

Such broader permutations of remediations are beyond the scope of this chapter, but if we can begin to handle digitally mediated games with a fuller sense of how they make use of hypo- and hypermediacy, we will be in a better position to inquire deeply into how digitally mediated infrastructures accomplish the quality of ambience that underwrites the vast scope of their influence on human affairs.

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Notes

1 The dramatic, long, and vexed encounter between modernity's project of rational control and contingency lies at the heart of many fascinating scholarly moments, such as Charles Darwin and James Clerk Maxwell's challenges to positivist science, the foundations of American pragmatism and legal realism, and the landmark shift of Wittgenstein's thought which led him to see language as a game. Among many other works, one could begin with Ian Hacking's *The Emergence of Unpredictability* (1975) and *The Taming of Chance* (1990; see also Hacking, 1983), or Louis Menand's *The Metaphysical Club* (2001).

2 Regarding the treatment of ritual and game as ontologically on a par with one another, see Lévi-Strauss's four-page discussion of the two forms, full of insights still relevant today, in *The Savage Mind* (1966: 30–33). Regarding cultural form, see Bourdieu's comment in *Outline of a Theory of Practice* on "form," specifically in the musical sense, as an appropriate metaphor for social action (1977: 198, note 8).

3 I wish to stress very strongly here that, while I may present these differences between "ideal types" of game and ritual, in reality many events that we may fruitfully treat under one or the other label nonetheless have elements of both (and of bureaucracy as well). The Olympics, of course, are the most prominent example of all three cultural forms running simultaneously and together.

4 Note that, in truth, these computer-generated contingencies are pseudo-random, as no digital computer can produce actual randomness. Interestingly, this pseudo-randomness is often achieved via a complex algorithm that makes use of, for example, the string of numbers (often in milliseconds) generated by the player's input. This is immaterial for the experience of the player, however, for whom it is *practically* random.

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