

The Machinima Reader

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10 Of Games and Gestures: Machinima and the Suspension of Animation

Peter Krapp

Semantic aspects of communication are irrelevant to the engineering problem. (Shannon and Weaver 1962, 31)

Technology is making gestures precise and brutal, and with them men. It expels from movements all hesitation, deliberation, civility. It subjects them to the implacable, as it were ahistorical demands of objects. (Adorno 1978, 30)

Machinima is to computer gaming what Brechtian epic theater was to dramatic and cinematic conventions a century ago. Moments and sequences of gameplay are interrupted and time-shifted into a different context, in adjustments that allow them to be recorded as significant, interesting, or entertaining, independently of the immediate context of their production. This momentary halting of fluid technical as well as semiotic relations can make visible, rather than merely felt, what is at stake in machinima. This essay proposes there are at least two reasons to look at machinima from the vantage point of gestures. On the one hand, gestures and their citability mark the performative space of theater or cinema that is cited by machinima. On the other hand, precisely calibrated in-game gestures remain particularly difficult, even for highly accomplished examples of machinima such as Paul Marino's *I'm Still Seing Breen* (2005). Many of the digital assets that come with a particular game tend not to allow certain simple character movements, such as nodding, facial expressions, turning one's head, or pointing without a weapon in hand—as one can quickly glean, for instance, from episodes of the long-running machinima sitcom series, *Red vs. Blue* (2003–2007) (Delaney 2004).¹ The difficulty of emulating a range of affective expression through gesture and facial controls is among the constraints of making machinima without modifying the game engine or the digital assets (Kelland, Morris, and Lloyd 2005; Hancock and Ingram 2007). In machinima, there is a dual register of gestures: the trained motions of the player determine the in-game images of expressive motion. In this sense, machinima is not simply the recording of consumer-generated content in computer games, any more than speech is merely the consumer-generated movement of air through the larynx. Machinima consists of controlled gestures in a

collective frame of reference in the history of technology and entertainment. Instead of reducing machinima to fan culture or to contributions to an oral history of video games, this essay seeks to show how machinima's gestures may grant access to gaming's historical conditions of possibility, and how it offers links to a comparative horizon that informs, changes, and fully participates in video game culture.²

Gestures are neither necessary nor natural. They are acquired wherever specific cultural tasks are to be performed, and the process of accommodation or acculturation creates the kinetic body (Mauss 1935; Leroi-Gourhan 1993).³ A gesture is a manner of carrying the body, a controlled motion used to express attitude or emotion. Gestures communicate: each gesture is a bodily motion, but not all bodily motions can be understood as gesture. Involuntary movement (including posture, facial expressions, or even a mere reaction of the pupil of the eye) does not constitute a gesture: to the extent that gestures are taken as expressions of an intention, we assume significance, and constantly read or interpret gestures.⁴ We also know that gestures are readily imitated or cited, and if they seem derivative or kitschy, then they are less expressive. When it comes to the gestures of machinima, beyond the twitchy hand-eye coordination video games require there is the motion of the camera itself inside game-space. As recorded from the point of view of one player, who thereby acts as the camera, game action may feature high jumps, teleporting, and seemingly impossible positions and angles, yet apart from (or indeed by dint of) such reminders of the technical capacity of virtual cinematography, the player tends to disappear from screen. Even as cut-scenes, in-game footage, and ad campaigns for blockbuster gaming products such as *The Sims*, *Halo*, or *Grand Theft Auto* must interpolate a player, that player herself is absent from the screen, which seeks to impress instead with the promise of spectacle (Atkins 2006). This disappearance of the player offsets some of the advantages of real-time rendering that make machinima a new chapter in motion graphics.⁵ Here, what Agamben says of early cinema applies to the interruption of motion graphics that is machinima: "In the cinema, a society that had lost its gestures tries at once to reclaim what it has lost and to record its loss" (Agamben 2000, 53). For, arguably, machinima recoups the gestures of play, compensating for a loss of theatrical and cinematic gestures that seem difficult or impossible in videogames. In terms of this effect of alienation and distancing, Walter Benjamin observed that "the more an acting subject is interrupted, the more gestures we have" (Benjamin 1977). Benjamin read the Brechtian epic theater as a systematic interruption of the frame, of narrative representation and context, of myth and plot—of the things that since Aristotle had been considered pivotal for the dramatic genre. Samuel Weber argues that Benjamin's writing can be read as an instantiation of what he is writing about, "perhaps because the citability of gesture already entails a mode of writing" (Weber 2008, 97). Without customized game engines and video capture tools, machinima moves in jerks and jolts; rather than seeking to overcome this limitation, machin-

imators tend to accept it as something to toy with, something to be mobilized for aesthetic effect. Experimental animators working with game engines "have created a form of animation that exemplifies some of the possibilities for production and distribution that are unique to digital animation" (Crawford 2003, 120; cf. Nitsche and Thomas 2004). As motion-capture animation and inverse kinesthetics approximate our idea of human movement and gesture ever more closely, computer-generated imagery becomes legible as related to theater and cinema; just how these relationships are negotiated is something that may become clearer through a closer look at machinima.

The first decades of cinema raised the expectation that this new medium would extend and refine the expressive tradition of gesture from pantomime. Insofar as silent film was comparable to pantomime in its wordless expression, it did foreground a stylistic limitation that was a consequence of a typology of gestures, as a schematic reduction of affective communication. But on the other hand, if mimodrama chose silence as a means of expression, early film did not: it was less an artistic abstraction than a technical constraint. Just as silent film used writing, with intertitles and subtitles guiding the viewer through the moving images, the expanding menu of in-game communications, particularly in networked gaming, pushes the possibilities of drama and interaction in game space. By the same token, if an emphasis on action as movement in space (in sound film as in many computer games) came at the expense of an expressive ballet of gestures, one might surmise that machinima is also a way of injecting the complexity of miming and gestures into the kinds of games that tend to reduce their elementary setup to something as easily summarized as a pantomime or puppet theater handout. Thus, machinima can reintroduce some of the narrative potential that tends to be eliminated from the compressed standard plot that marks many first-person shooter (FPS), adventure, or strategy games, and it can elaborate on the rudimentary narratives that introduce open systems for gaming, such as *Second Life* or *The Sims*. Nonetheless, it is too narrow to define machinima as an exploration of modes of play as modes of production, since some games are already "designed to be manipulated and modified by the people who purchase and play them" (Salen and Zimmerman 2003, 539; see also Lowood 2009). This is not to deny that machinima has opened up unforeseen avenues for creative expression using computer games. It is rash to claim, as some game critics are wont to do, that "film theory fails in the face of such tweaked-out technology," for if the digital animation made possible by computer games is used for short films, series, or even feature-length movies, then clearly the legacy of moving image forms may retain some relevance, especially if it includes traditions from theater and puppeteering (Salen 2003, 540). On the other hand, it is equally valid to assert the fundamental departure from cinema in computer space, for instance the simple fact that the computer image, now omnipresent in the production and editing of all manner of visual media, derives its point-and-click addressability

from radar screens. Too often, anecdotal attempts to string together a history and typology of computer games fail to take into account the basic technical dispositive and its influence on the body—from Jacquard looms to Zuse's film, from oscilloscopes to Sutherland's Sketchpad, and indeed from the lurking style of early machinima like *Diary of a Camper* (1996) to machinima clips pushing the limits of in-game dance like *The Man Who Can* (2006) (Sutherland 1980).⁶ Furthermore, while film theorists emphasize the immobilizing of their audience, the gamer's gaze is perhaps fixed on a screen or display, but in terms of their twitchy virtuosity with a mouse, keyboard, joystick, or other input device, gamers are hardly immobilized. Yet Salen is right to associate machinima with a kind of déjà vu, for it cites not only gameplay but many other media discourses as well. Conceiving cinema in terms of the reception of an event, Bellour (1976) had called film an "unattainable" text, but today, loops of repetition and mashups of moving images on TV, video, DVD, and computers have become commonplace and make film easily citable as still image or clip. Similarly, earlier video games took place only as real-time graphics and were hard to stop, interrupt, cite, and archive; machinima is possible only because this is no longer the case. This situation in turn raises questions about the status of repetition and remixing, ranging from remakes and parodies to citations, allusions, video responses, and more. For instance, when machinimators such as Kendra Flemons remodel singer R Kelly's *Trapped in the Closet*, is that a video remix via *The Sims* or consumer-generated censorship that replaces steamy scenes with innocuous ones? When the physics experiments of Randall Glass's remarkable *Halo* machinima *Warthog Jump* cite the seventies' arcade game *Canonball* and are in turn cited by a flash game on the Web (*Warthog Launch*), is it sufficient to celebrate a mass mediation of user-generated content?⁷ Here, pseudo-stabilities are upset in an entirely different way, as machines are placed under the control of a new kind of subjectivity that is aligned not just with a technical setup but with its historical possibilities and impossibilities (Guattari 1992, 29; Mehigan 1993). This underscores the point that cutting off video games, arcades, and consoles from their conceptual and technical history across several media dispositives risks losing sight of what precisely makes machinima's cut-and-paste montages fascinating and worthy of popular appraisal (and academic attention).

Of course, reading machinima as cinematic is not to ignore its ludic aspects: interrupting, citing, and reassembling the game, machinima is a way of playing with the game; by the same token, it plays with cinematic conventions (Kinder 2002). While "on the one hand, images are the reification and obliteration of a gesture," as Agamben puts it, "on the other hand, they preserve the *dynamis* intact (as in Muybridge's snapshots or in any sports photograph)" (Agamben 2000, 55). By analogy, since the collective memory of digital culture is hampered by the impracticability of anything like a museum of hardware and software, machinima in the form of captured replays or as video of tournament games serves as one way of preserving (interrupting and fixat-

ing) the experience of gameplay—something that is otherwise irretrievably lost once a platform has become outdated (Hagen 2005). As Agamben surmises,

In cinema, a society that has lost its gestures tries at once to reclaim what it has lost and to record its loss. An era that had lost its gestures is, for that very reason, obsessed with them; for people who are bereft of all that is natural to them, every gesture becomes a fate. And the more the ease of these gestures was lost under the influence of invisible powers, the more life became indecipherable. It is at this stage that the bourgeoisie—which, only a few decades earlier, had been firmly in possession of its symbols—falls victim to interiority and entrusts itself to psychology.⁸ (Agamben 2000, 53)

Drawing a parallel between Tourette's proto-cinematographic study of human motor coordination and Muybridge's photographic motion studies, Agamben asserts that "the element of cinema is gesture and not image" (*ibid.*, 55). Citing Gilles Deleuze's argument that sought to erase the fallacy of a distinction between image as psychic reality and movement as physical reality, Agamben developed his ethics and aesthetics of "gestural cinema." Deleuze held that cinematography consists of movement-images; and Agamben extended this argument to show how "cinema leads images back to the homeland of gesture" (Crary 1990, 110). It is not too much to infer here that reading machinima by its gestures may lead video game studies back to the conditions for a possibility of computing culture—to the triple setup of computer graphics, interface ergonomics, and database form.

To an extent, these three aspects correspond with experiences of embodiment as distinguished by phenomenology: from motor control and perceptive self-awareness, to the socially and culturally constructed body, to technological embodiment as it is observed, for instance, in film and computer games (Ihde 2002, xi et passim). What this means for reading machinima through gestures is that there is no clear distinction between the controlling manipulation of gaming interfaces and the controlled in-game motions of avatars. The necessary but ultimately impossible distinctions among controller syntax, avatar performance, and embodied player are collapsed once one asserts that the technological premise of video gaming's audiovisual setup is indeed programmed by what makes the relation between rapid finger twitches and 3D illusion possible, namely, that they mean each other, point to each other, supplement each other. This is observed not only in media history and film theory but also in the applied motion studies that underlie the discipline of scientific management and ergonomics.

Despite Deleuze's (1987, 56–57) dismissal of phenomenology in considering cinema, it is perhaps worth mentioning that Maurice Merleau-Ponty's approach to cinema outlined a "sign language of gesture and gaze" (Merleau-Ponty 1962, 68; 1964, 58). While Deleuze considered the phenomenological account of media experience as merely derivative in relation to natural visual perception, Merleau-Ponty saw that the structures of cinema were refined and perceived in the cinematic experience: "The

meaning of a film is incorporated into its rhythm just as the meaning of a gesture may immediately be read in a gesture: the film does not mean anything but itself" (Merleau-Ponty 1964, 57). And parallel to the phenomenological analysis of modes of embodiment via technology, applications of moving image technology also allowed much more exacting study of bodily motion. A scientific attitude to efficiency was already evident in the historical roots of film, for instance in Marey's "stoppages at the moment of pose," and it inevitably became crucial for usability engineering, whether for work or for play.⁹ For computer games to avoid the programmatic and inevitable fatigue of repetitive strain, behaviorist or Taylorist assumptions about efficiency of motion have to be complemented by a consideration of motivation. If one asks what allows games to continue for hours, and what entices repeated play, then one has to ask also what enticed gamers, accomplished as they are in the interactive mode of interfacing with video games, to switch into the archival mode of performance that is machinima (Lowood 2007, 2008).¹⁰ Once one adapts to computing culture—graphics, interface devices, and data space—one finds a way of communicating with others about computing culture. What congeals in gaming and in machinima is a set of gestures that may be read as the epistemic program of gaming culture's technologies, institutions, and machines: from management science, performance training for ever-improving reaction times, hand-eye coordination, speedy and ergonomic efficiency; from army mental tests, problem solving in mazes and puzzles, scenario planning; and from computer science, metonymic routing and database access (Pias 2002a).

While machinima can be made with the aid of just about any computer game, its early development owed not just to recordings of speed runs and other in-game performances but also to the increasing possibility and popularity of modifying game maps, skins, and tools for games like *Quake* and *Doom*. Salen and Zimmerman argue that "the player-as-producer paradigm takes the modification of a game so far that the invented activity no longer resembles the play of the game at all. Such is the case with machinima" (Salen and Zimmerman 2003, 550; see also Salen 2002). However, whether one takes the earliest examples, such as speed runs, or the many clips surfacing each day on the Web and in digital film festivals, the fact remains that these are mostly dilettantish efforts at harnessing the power of a game engine, and few attain a level of visual and conceptual sophistication that rivals the more costly productions of the imaginary counterpart, the professional animation or movie studio experts. It is ironic how readily academics in cultural studies have revived the eighteenth-century discourse of dilettantism as a direct challenge to the increasing specialization of knowledge and its organization into disciplines and professions; interviews with machinima pioneers such as Hugh Hancock and Paul Marino portray them as zero-budget challengers to Disney and Pixar.¹¹ Meanwhile, in late 2008 machinima.com, seeking to position itself as an entertainment network, announced a \$3.85 million

investment from MK Capital and other private investors to help fund expansion. With the proceeds, machinima.com commissioned fifteen television writers to create game-based comedy shows for the online site, a talent pool that includes former writers of such shows as *The Simpsons*, *Futurama*, and *Family Guy*.¹²

Yet more than half a decade ago, as students in my first machinima seminar grappled with the vicissitudes of producing and editing their first clips, they were unanimously struck by the Strange Company clip *Ozymandias*, since the Shelley sonnet concerns a series of framed acts of reading: a sculptor reading a royal's face, a traveler discovering the statue, a narrative "I" listening to the report, and a reader encountering the sonnet.¹³ To be sure, the sonnet contains the act of reporting an ancient inscription that commands the reader to be in awe of a grand (yet fallen) ruler, but it is quite evident that the sculptor's reading of the "hand that mocked them" and the royal visage already was no mere copy but also an act of ridicule and distancing, long before the statue falls into ruin. This seems lost on the lonely walker in the sand as represented in the machinima clip; Strange Company seems to suggest that low-budget machinimation will be alive and moving on in the face of the ruined omnipotence and arrogance of Hollywood, without acknowledging that the machinima clip and the poem consist in a series of gestures pivoting around an imitation of that powerful point of reference. Shelley offered a reading that is both faithful and resistant, both subservient and subversive; its transfer and transformation of (gestures and poses associated with) power is not a succession or eclipse. The ruin's hold over the "traveller from an ancient land" persists, while his contemporary scene is a vast wasteland.

More recently, amateur production has come to be seen in opposition less to professionalism than to its side effects, as it were. Yet to oppose the managed process of a large, established animation outfit to the ingenious inventions of the end-user amateur means to ignore the very structures and strictures of the computer in the production of audiovisual culture. The overly hyped paradigm of user-generated content, so often associated with machinima in particular and with game modifications and fan art in general, is unsatisfying precisely because its concept of "content" is so resolutely divorced from the technical and historical conditions of computers, networks, and media industries. As Hans Magnus Enzensberger pointed out decades ago, what is new about the new media is the fact that they are no longer dependent on programs (in the sense of content scheduling) (Enzensberger [1970] 2003). It would be better, perhaps, to regard the impact of electronic mass media in terms of programming in the computer science sense, for in a very real sense what is generated by the technical setup of computer graphics, interface devices, and database structures is first and foremost the idea of the computer user. Instead of opposing a natural organic body to one conditioned by technology, we see that all bodies produce culture by interfacing with prosthetic devices: "the body never springs forth fully realized but

is instead shaped and constructed by the gestures that machines impose upon it" (Noland 2006, 220; see also Keep 1999). As the small motor motions required by human-computer interactions can become inscribed as automatisms or habits, they accentuate the body's ordinary articulation. Michel Foucault had already documented how handwriting, for instance, "presupposes a gymnastics—a whole routine whose rigorous code invests the body in its entirety, from the points of the feet to the tip of the index finger" (Foucault 1979, 152). As machinima cites the gestures of gaming, it foregrounds and exhibits the timing and motion patterns acquired and necessary for advanced skills in *Max Payne* or *Counterstrike*, including, for the purpose of gameplay and concurrent recording, the ability to manipulate several game controllers simultaneously with hands and feet. While PlayStation sports characters are not programmed to do anything but play their sport, a helpful glitch in *Halo* that makes a game character's head pop up when the gun is lowered all the way allows for a puppeteering index of talk. Thus, what animation pioneer Alexandre Alexeieff observed still holds true for recamming and screen captures in game environments: "For movie animators, the movement which happens on the screen for the first time is the one which makes the original work: contrary to the photo-film, which is satisfied with a photomechanical analysis of the real events that the synthesis of the screen recreates as *déjà vu*" (Alexeieff 1996, xxi).

In this way, computer games, and the explorative or emergent play that includes the making and distribution of digital videos (or of code that would render, in the right engine, as a video sequence), are simply a way of learning to interface with computers—a way of coping with technology. Accommodation to repetitive tasks is a question of timing and motion patterns. Certainly the definition of computer workspace and of human-computer interaction is deeply influenced by "desktop" logistics that normalize the motions of hands and tools, with drawers, folders, files, pens, rulers, and so forth all in their predetermined and standardized relation to each other. Two-dimensional document processing anticipates the screen metaphors implemented in the computer; data processing is the application of standardized tools according to industrial norms in prescribed sequences of motions and calculations (Fairthorne 1956; Pias 2002b). Time-motion study of repetitive labor, using film cameras and stopwatches, also laid the foundation for ergonomics and scientific management: measuring efficiency in such activities as bricklaying. Frank and Lilian Gilbreth found a different set of motions used for faster work than for slower work, and accordingly developed the laws of a human motion economy.¹⁴ Of course, it was Taylor's parsimonious charge that work resembled childish play, and management was going to eliminate invisible waste by establishing firm rules. Inversely, one may suggest, machinima is a form of emergent play in that it toys with the game, and in that it records its own kind of time-motion study of the gamer: whether in speed runs or in quasi-documentary footage of other in-game

performances—even as brought to light by the humor of Jim Munroe's walking tour of *Grand Theft Auto* in his magnificent (and deceptively simple) machinima clip, *My Trip to Liberty City*.

As popular machinima examples such as the restaging of episodes of the TV show *Friends* on a *Quake Arena* server or the in-game talk show *This Spartan Life* amply illustrate, machinimators can borrow from the self-reflection of established formats while at the same time arousing curiosity among peers, fans, and academics.¹⁵ Not all machinima needs to function as self-conscious commentary on the stereotypes about computer games, as is too often said of *Red vs. Blue*. Most popular examples follow the rather narrowly circumscribed conventions of established entertainment media.¹⁶ This is the problem I see with a game like *The Movies*, which has been called "machinima in a box": precisely because here, gameplay and the recording, editing, scoring, and distributing of digital clips coincide, the bulk are rather kitschy after-images of Hollywood fantasies and generic sets. Machinima is at its best where it is not merely recording a media setup but reconfiguring its parameters, for instance in juxtaposing immersion and reflection, as April Hoffmann's *The Awakening* or Rooster Teeth's *The Strangerhood* do. Real-time animation such as the live puppeteering performances by the ILL Clan (e.g., *Common Sense Cooking*, 2003) is far from being truly improvisational, considering the highly constrained and circumscribed dispositives of networked gaming that is required even before any camera angles or shot sequences are hashed out. This is all the more readily recognized in approaches to machinima that interfere with the digital assets of a game, modify a game engine, or heavily edit and postprocess recorded game action.¹⁷ Clearly, the player is both subject and object of play, and may herself be played; machinima brings this to the fore, as does the work of Beijing artist Feng Mengbo, who replaced all *Quake 3* characters with his own likeness, holding a video camera instead of a weapon in machinima clips and canvas displays, and in installations that invite gallery viewers to shoot at him.¹⁸

Thus it becomes clear that gestures are not improvisational or loosely user generated; rather, they are highly scripted. To understand the preparation necessary for machinima clips like *Dance Voldo Dance*, one might consider the dance notations that emerged around the same time as the time-motion study of manual labor: surely they do not constitute the invention of choreography, but they established a regulation of motion that is not merely descriptive but openly prescriptive. Distilling elementary gestures and simple bodily actions from the sequences he observed, Laban sought to establish a holistic system of bodies in time and space. (Brandstetter 1995, 46f) This kind of kinetographic script (or "Labanotation") is not dissimilar from the way computer games make the hands of the gamer dance on the keyboard or game controls; like dance notation, a computer program can prescribe the gestures of its user, testing in terms of advances in game space whether they are precisely timed and executed in order. Interestingly, successful machinima music videos like *Rebel vs. Thug* for Chuck

D (2002) or *In the Waiting Line* for Zero 7 (2003) face the constraints as artistically productive, rather than seeking to overcome them in elaborate modding; a concise index of increased capability might be the elaborately choreographed *Cantina Crawl* machinima dance series that is the result of multiplayer collaboration in *Star Wars Galaxies*.¹⁹ What Agamben observed as a loss of meaning of certain gestures under the influence of mechanization also establishes new possibilities of social inscription by the technologies that make motion visible and "scriptable," with consequences for sports, theater, work, and everyday life. Just as telegraph operators had to practice until the encoding and decoding had become fully automatic, computer games train the player to acquire certain motor skills—after which, one need only continue the analogy, the transmission of communications has become possible. The mimetic dimension of playing "as if" is complicated by the dark compulsion to repeat over and over again, which tilts gaming and machinima beyond creative mimicry and into a performance that is as much a (dis)play as it is a test—a controlled exhibition that is training humans in the apperceptions and reactions required by living with technology. (Of course, Theodor Adorno scoffed that "art that seeks to redeem itself from semblance through play becomes sport" (Adorno 1997, 100; see also Huizinga 1955, 470f). Machinima, the dance of gaming gestures, is both a test of games and of gamers, a performance in the context of art as in the context of sport. But beyond that, what machinima demonstrates is that computer games are ultimately not about adventure, strategy, speed, or violence so much as they are about usability as a precondition to communication. The required motor skills, hand-eye coordination, and reaction speeds apply equally to radar operation, flight simulation, word processing, Web surfing, and playing (with) games.

The point of looking at computing culture from the vantage point of gestures is not to introduce some kind of humanism through the back door of technological determinism. Certainly it is true that adaptation to the simplest tool already commences a tendency toward the machine. The increasing interpenetration of bodies and machines raises a question about the essential quality of gesture. Stelarc's *Movatar* exhibits the many ways in which the body can be constrained and programmed by the machine.²⁰ What is at stake in playing with game technology is much more than consumer entitlement: to believe so would be to forget media history. For too long, definitions of games and play have emphasized an exercise of freedom, following early romanticism (Huizinga 1955; Ehrmann 1968; Callois 1979). I doubt that what makes machinima interesting, and what allowed it to grow so substantially over the past decade, is simply the consumer's carefree explorative play, in ways more or less condoned by the programmers and marketers of computer and console games. After a certain shelf-life, many games have been re-released with a relaxed license that encourages modification; as user-generated content is observed to enhance brands, this time-

span is shrinking—another reason to debunk claims to a subversive or counter-marketing ethic of machinima. Copyright law and contemporary culture converge in the conundrum of end-user license agreements for game engines, in-game assets, and computer programming as a kind of writing. (Irvin 2005)²¹ What is intriguing about machinima, I would argue, is precisely a way of citing, reclaiming, and incorporating the gestures of disparate discourses of mediation, gestures of communication and information, of repetition and citation, of embodiment and accommodation in handling technologies that are increasingly pervasive.

Vilem Flusser's information theory of gestures holds that the less a gesture informs, the more it communicates, and the more information it contains, the more difficult it is to read it as a mere gesture. Inversely, the more kitschy a gesture is, the less information it contains; empty gestures are pleasing insofar as they require no effort to be decoded (Flusser 1994). Indeed, a theory of gesture should strip out any surmise as to a gesture's potential intentions, whether this is argued with phenomenology or with Taylorist motion studies, for to define gestures as expressions of an intention raises difficult matters of freedom and subjectivity. Avoiding the ontological trap, a better (if still rough) definition might be that gestures are those bodily motions that betray no direct cause—that is, they are not reflexes or involuntary motions, they are part and parcel of our expressive, semantic culture. Our ideas about acting as representation of human motion continue to change with each technological step, from sound to color to television, and from postprocessing to computer-generated imagery to the affordances of game engines. A formalized vocabulary of gestures was transferred from theater and puppeteering to early film, and now, in any cursory study of the computer history of gaming, one can discern the legacy not only of media discourses of communication and the rituals of art forms but also the legacy of Taylorism and usability engineering, of army testing and flight simulation. Flusser warned that conjectures about a general theory of gestures may tempt one to see it as a metatheory of communication, of art criticism, of a future theory of the absurd, and in fact as a metatheory of magic and of ritual—validity claims that are surely too broad and insufficiently deep. Nonetheless Flusser went on to suggest that we try to distinguish communicative gestures that are directed toward someone else, gestures of labor that directed toward material, phatic, disinterested gestures that tend to be directed toward nothing in particular, and self-reflexive gestures that ritually refer to themselves. Gameplay tends to include all four types, juxtaposed and commingled to different degrees, and they are certainly inscribed in the genealogy of the technologies used in any computer and gaming setup: but it is in the last sense in particular that a gesture is "the exhibition of a mediality: it is the process of making a means visible as such," as Agamben writes. Precisely in this sense, machinima is a way of observing, commenting on, and archiving the mediality of our setup—citing the gestures of gaming as the gestures of computing culture.

Notes

1. See <<http://rvb.roosterteeth.com>>.
2. Two eloquent appeals for a historically and conceptually rigorous study of gaming are Ian Bogost, "Comparative Videogame Criticism," *Games and Culture* 1, no. 1 (January 2006): 41–46, and Alex Galloway, *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006).
3. It is worth noting that like Pierre Lévy, André Lerol-Gourhan refers more to the Catholic teleology of Teilhard de Chardin than to Darwin or archeology or anthropology for support for his history of technology.
4. For a gesture's socioeconomic and cultural context, see Radan Martinec, "Gestures That Co-Occur with Speech as a Systematic Resource," *Social Semiotics* 14, no. 2 (2004): 193–213. Compare Adam Kendon, *Gesture: Visible Action as Utterance* (Cambridge: MIT Press, 2004), especially chapter 4.
5. PlayStation Home, an online environment built by Sony, offers machinima-ready tools in its Stage Set, and machinima tools are also being built into new games, including, for instance, *Left 4 Dead* (2008) and *Uncharted 2: Among Thieves* (2009). The *Unreal* engine was used by George Lucas for previsualization, and The History Channel used the engine for *Rome: Total War* to stage televisual battles. Other examples include the machinima Volvo ad *Game On*, by NYU-CADA students, a series of machinima "Video Mods" on MTV2, produced by Alex Coletti and Tony Shiff, as well as the UPN show *Game Over* and the Canadian children's show *ZIXX* on YTV.
6. For all machinima examples mentioned in this text, see <<http://www.machinima.com>> and <<http://www.archive.org/details/machinima>>.
7. See <<http://rkellyscloset.com/the-sims-machinima-in-the-closet-chapters-1-5>> and <<http://www.warthog-jump.com>>, respectively.
8. Discarding all reference to consciousness, American experimental behaviorism tried to discount mental activity and experience by focusing exclusively on observable interactions in environments. As John B. Watson wrote, "Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon [. . .] interpretation in terms of consciousness" (Watson 1913). Consequently, mental labor would have nothing to do with the mind, consisting instead in the spatiotemporal organization of motion; education would aim not for comprehension but rather would constitute training to optimize certain functions according to a rule-oriented process.
9. Regarding Etienne-Jules Marey, chronophotography, and gesture, see Sekula (1999), Braun (1984, 1997), and Marey (1878).
10. The inroads machinima makes into the art world can be seen, most recently, in the Laguna Beach Art Museum's exhibit, "WoW: Emergent Media Phenomenon" (2009), in the work of the

Second Life Machinima Artists Guild, at <<http://slmachinimaarts.ning.com>>, in the entries to the Bitfilm Festival 2009 (Hamburg and Tel Aviv) or in the MachiniCast Machinima Award Show, at <<http://www.MachiniCast.com>>.

11. See <<http://www.strangecompany.org/page.php?id=26>> for information on Hugh Hancock and <<http://blog.machinima.org>> for information on Paul Marino. Marino, for example, proposes the equation "Hollywood + Moore's Law = Machinima" (Marino 2004, 11).

12. *BusinessWire*, November 9, 2008. As of summer 2010, Machinima.com claims \$14 million in venture capital. See Ben Fritz, "Machinima Directors Step Up Their Game," *LA Times* (August 29, 2010), <<http://www.latimes.com/entertainment/news/la-ca-machinima-20100829,0,6035173.story>>.

13. See <<http://www.strangecompany.org/Ozymandias>>.

14. The Taylorist use of the camera became itself the object of cinematic observation in the 1950 movie *Cheaper by the Dozen*, based on the Gilbreth family. See Frank B and Lilian M Gilbreth, "Application of Motion Study," in *Management and Administration*, September 1924, n.p.

15. See <<http://www.unr.edu/art/DELAPPE/Gaming/Quake%20Friends>> and <<http://www.thisspartanlife.com>>, respectively.

16. This includes many documentary and archival approaches to game worlds, as well as clips mimicking TV, remaking film scenes (often using the original sound track), and so forth. Also worth mentioning in this conjunction is the convergence of game-themed comics, or "gamics" (see <<http://www.gamics.com>>); see "Games + Comics = Gamics," *Globe and Mail* (Toronto), April 5, 2009, <<http://www.theglobeandmail.com/news/technology/games-comics-gamics/article812003>>. There are also some literary efforts regarding machinima, for instance, "Moving Pictures," by Mike Hoefflinger (<<http://packetswitched.blogspot.com/MovingPicturesPSP2005f/MovingPicturesv09HTML.htm>>) and "Give the Dog a Bone," by Patrick Kolan (<<http://jumpbuttonmag.com/?p=21>>).

17. See <<http://www.atlas-enterprises.net>> and again <<http://sh.roosterteeth.com>>.

18. See <http://www.thingsasian.com/goto_article/article.2950.html> and <<http://q4u1.uchicago.edu>>.

19. See <<http://www.furplay.com>>.

20. See Stelarc, "Movatar: Inverse Motion-Capture System," on his Web site, <<http://www.stelarc.ca.com.au/movatar/index.html>>. Compare Andy Clarke's discussion of Stelarc (Clarke 2003, 115). A company called GestureTek recently announced that Microsoft will license its video gesture control technology for use with the Xbox Live network: using networked cameras, gamers can manipulate real-time visuals using full-body gestures, for instance moving left or right to steer a snowboard down a simulated mountain (Project Natal).

21. Compare also the presentations at the Play Machinima Law Conference at Stanford University, April 2009 (<<http://kotaku.com/5293190/watch-the-play-machinima-law-conference>>).

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