

“I’m the One Who Makes the Lego Racers Go”: Studying Virtual and Actual Play (draft)

Published in Shanly Dixon & Sandra Weber (eds) *Growing Up Online: young people and digital technologies*, Palgrave / Macmillan 2007

Seth Giddings



I had picked up a free pack of computer games on CD-ROM from PC World, a promotion for NVidia graphics chips (each game uses 3D graphics). One of the games, *Lego Racers 2*, quickly became a favorite with my two sons, Jo (aged four) and Alex (three). They both enjoyed the novelty of seeing, and controlling, Lego cars and men on the computer screen and the humorous elements of the game that link the virtual world with the actual world of familiar play with plastic toys. As a media researcher (as well as a parent) fascinated by videogames, I began to notice some unexpected and intriguing aspects of their play. I picked up the family video camera and began recording them, unwittingly embarking on what was to become an in-depth study with important implications.

What is going on when children incorporate videogames in their everyday domestic play? This chapter draws on detailed participant observations of my two sons playing at home with Lego: the bricks *and* the videogame. It explores and documents the ways in which videogame play can be continuous with, but also transformative of, children's established toy and play culture. I begin by questioning the usually firm distinctions often made between virtual and actual space. Following that discussion, I describe a video recording of the two boys at play, tracking their movement between virtual and actual play realms. As the chapter progresses, what started out as a small-scale improvised microethnography ends up raising unexpected but fundamental questions about children, play, and new technologies.

The research on playing videogames tends to fall into one of two broad categories that indicate different approaches, foci, or conceptual frameworks: (i) some studies concentrate mainly on the social or communicative contexts and practices of new media, which frame and inflect playing (Alloway & Gilbert, 1998; Ito, 1998; McNamee, 1998; Wright, Boria, & Breidenbach, 2002) reflecting an ethnographic concern for describing and understanding observable, lived experience; (ii) other research tends to focus much more closely on the use of theories of subjectivity to examine the complex nature of the relationships between humans and media (technological intimacy). Studies in the latter kind of research tend to echo cybercultural studies (or film theory) in that their theorizations or cybertextual analyses are based on assumptions about the nature of interaction and immersion (the idea that users of the internet or players of videogames are somehow present—or feel themselves to be

present—within cyberspace) rather than on any observation of actual, lived interaction (Friedman, 1995; Lahti, 2003; Morris, 2002).

This is not to argue that either of these approaches is wrong, but rather that there is a gap between ethnographies that say little about the detailed nature of human/media technological intimacy, and theories of subjectivity that address these issues but neglect ethnographic concern for observable, lived experience. A synthesis is needed between theoretical work on new media/technoculture and ethnographic work with more familiar research objects: domestic space, everyday life, established media and toys, familial relationships, and children (Facer, Sutherland, & Furlong, 2003; Flynn, 2003; Green, Reid, & Bigum, 1998; Ito, 1998; Sefton-Green, 2004; Walkerdine, 1999). In this chapter, I hope to bridge the gap, at least partially.

To examine how the game as software, and PC as hardware, facilitate emergent practices and meanings in children's lived media culture, I use a research approach that takes technologies (both hardware and software) and media images as its objects of study. Or, more precisely, an approach that describes an "event" constituted by the circuits of agency, affect, and play between human and technological participants. However, as I hinted earlier, it quickly became clear that any microethnography of popular technocultural events such as videogame play should also address the operations, effects, aesthetics, and kinaesthetics of the videogame-in-play; it should, after Espen Aarseth, develop a *cybertextual analysis* (Aarseth, 1997; Manovich, 2001).

A Microethnography of Virtual and Actual Play

The Lego videogame that I brought home to my sons was played on a PC in the living room. The machine is used by the whole family for game-playing, word-processing, internet access, photo-viewing, and web design work. Jo played a range of games on the PC, including Flash games for young children on the BBC website, edutainment CD-ROMs and commercial videogames, often based on media worlds and characters he was already familiar with (e.g., *Scooby Doo*, *A Bug's Life*, *Buzz Lightyear*).

The commercial strategy of cross-media licensing is well-established in children's culture (Kinder, 1991; Kline, Dyer-Withford, & de Peuter, 2003), and this game is not unique in making links between media forms and genres and toys (other successful recent examples include, of course, *Pokémon*, and games based on the films of *Harry Potter*, *Star Wars*, and *James Bond*). However, *Lego Racers 2* makes direct and witty links between the gameworld and its objects, and the physicality of Lego as a toy. For example, the player at the start of the game is given the option of building his/her own car and driver. A menu system offers ranges of virtual bricks from which figures and vehicles can be built. In the game proper, crashes result in bricks breaking off from the cars. Whilst the cars in the game are controlled in ways familiar from other racing games, they are represented explicitly as Lego cars, built from bricks and—implicitly acknowledging the pleasures of play that constitute the flipside to Lego's promotion of its toys as for *construction*— destructible back into bricks.

I initially resisted picking up the video camera as I did not want my pleasure in watching my children's play to be invaded by "work." However, my attention was caught when the boys recreated the world of the game's first level ("Sandy Bay") with actual Lego bricks, replicating the features that most excited them in the game. They built steep mountains and drew a beach and sea on a sheet of paper to lay on the floor beneath the mountains. The boys constructed cars and drivers from actual Lego and raced them around the living room, making engine noises and shouting, before arriving at their plastic and paper gameworld. The "race" itself was non-agonistic, driven by their enthusiasm for the dynamics and noise of speeding virtual cars, not competition.



The improvised replication or performance of settings and environments from literature and media in children's play is hardly new. Spatial elements such as topographies, maps, and architectures also shape games and play—from Lego and dolls houses to board games and theme parks. However, it was apparent that this particular translation was a response to the specificity of computer-generated gameworlds as a spatial and kinaesthetic form. The boys were not merely constructing a backdrop for their translated play of the computer game, they were constructing it *as* space, and as an

actualization of a dynamic *virtual* space with its own simulated physics (friction, gravity, acceleration). The topography of the mountains, beach, and sea was not only animated by the actions and dramas of driving toy cars; this space and action were animated by both videogame form and a translation of the kinaesthetics of Sandy Bay's virtual physics. For example, when the race was over they began to drive their Lego cars up and down the mountains, but (and I did not notice this until I watched the video footage later) in the tractile dynamics of the cars, they simulated the low-gravity physics of the videogame environment. This "virtual physics" allows cars to drive up cliffs that would, in the actual world, be far too steep. On the other hand, if cars are driven off cliffs, they tumble more slowly (and with less damaging results) than vehicles in the actual world. Watching this movement is a little like watching footage of astronauts and moon buggies on the moon. The car must have some momentum to make such a climb and, as it bounces up the slopes, must make enough contact with the ground to maintain this momentum. To play this ascent-descent game the player must implicitly understand this simulated but real relationship between the momentum of the car, the friction afforded by the topography, and the gravity of the gameworld. This lunar gravity then, and the kinaesthetic pleasures it offered, led the boys to repeatedly propel their virtual vehicles off cliffs into exhilarating descents, the cars bouncing slowly yet inexorably downward toward the sea. For a time this offered sufficient pleasure in itself, an exploration of both the extremes of the gameworld's landscape, its hyper-real gravity, as experienced through the control of the car/avatar. Their translation of this virtual phenomenon into *actual* movement and dynamics, as they shifted their plastic cars

between the breakneck velocities of the living-room circuit and the slow-motion bounce and plummet over the brick mountains, highlights these virtual operations.

To best understand these translations, it is necessary to think through how virtual and actual playspaces and their players constitute each other. This microethnography needs to draw on, and factor in, something of the structure, operations, and effects of the videogame as virtual space and popular media software. The videogame as hardware and software is an agent or set of agents in this event alongside the children.

Cybertextual Analysis of the Videogame



The *Lego Racers 2* interface uses a third-person viewpoint—a mode of representation common to a number of the most popular genres of contemporary videogames. The avatar or player-controlled agent on the screen is positioned immediately in front of the virtual camera in the bottom half of the screen. The term “third-person” is defined in opposition to the “first-person” virtual camera of the tremendously popular genre that

is to a significant degree defined by this characteristic: the first-person shooter. Car racing games (and many adventure games such as the popular *Tomb Raider* series) almost always use the third-person perspective as a default, the player's point-of-view/virtual camera angle always hovers immediately behind the avatar as the avatar is directed through the three dimensions of the gameworld—down paths, through tunnels, and up hills and structures. However, many do allow the option of a first-person viewpoint (e.g., the player's point-of-view in looking at the on-screen events is contiguous with the view out of a car windscreen from a driver's point-of-view).

This terminology (third- and first-person perspectives) is adapted from film theory's notions of subjective camera positioning. As we will see, the ways in which a videogame organizes its interface between player and code (through the presentation of its virtual world and the operations of its virtual camera) are often considered key to the player's subjective engagement or "identification" with the gameworld and its characters.

In "adventure" mode, the *Lego Racers 2* player has to first construct the driver and car. Following the logic of actual Lego construction, the driver/avatar is made up from a selection of bricks "printed" with various faces and indications of clothing. Constructing the car is more complicated. Side-scrolling menus at the top of the screen offer a range of types of bricks, and submenus offer particular bricks within these ranges. When a specific brick is chosen by the player (left and right arrow keys slide the menu left and right and the return key is struck once the required brick rests in the middle of the screen) its image hovers over the car under construction. The player positions it over

the car and hits return to drop it into place. There do not seem to be many restrictions on the style or number of bricks thus added, and whilst the completed construction subsequently appears in the game, the design itself has no effect on the performance of the car or on the behavior of the driver.



Once the design has been completed, the game itself begins with a tutorial. An animated Lego figure (in close-up) instructs the player via panels of text. For example the player's first task is to drive the car to a beach to meet the instructor again. The green arrow points the way, and through this simple task the player learns how to direct the car and something of the kinaesthetics of the car and the gameworld. Whilst the movements and speech/text of this instructor are pre-rendered, the contingent avatar car/ driver as constructed by the player are also visible in these sequences.

At this point in the description it becomes clear that methods of textual analysis drawn from media and film studies cannot fully account for the operations and aesthetics of videogames in play. One of the most immediate differences between videogame play and other forms of screen media consumption is the requirement for the player to possess or acquire the relevant skills or competencies needed to play. These include motor skills, knowledge of game conventions, intellectual skills of deduction, experimentation, and problem-solving. Any description or analysis of the videogame in play must factor in the cybernetic feedback loop between player and software in particular events of gameplay. For example, Jo quickly found that the “preferred” or expected arcade mode of racing against the competing computer-controlled vehicles (non-player characters, or NPCs) was no fun; his motor skills of hand–eye coordination were not yet adequate to compete with the computer in a race. Taking bends with mathematical accuracy, the NPC cars disappeared from sight almost immediately. However, it soon became apparent to Jo that his car was not restricted to the track, or its immediate borders, as is usually the case in racing games. Rather, the Sandy Bay track loops around a fully explorable island with a beach, a town, and mountains with no marked distinction in virtual friction between track and other surfaces (the latter a common device in racing games for guiding players on the game’s preferred trajectory). The player can therefore leave the track and explore at will. From this revelation on, the game changed. It first became a game of exploration. Jo adopted a free-roaming, exploratory approach to the game, finding tunnels and tumbling down cliffs. Thus, as well as establishing constraints (of ability and experience) on the player,

the software also offered different modes of play and facilitated alternate virtual activities and pleasures. Certain repetitive patterns of activity became apparent within this overall exploration, notably the ascent–descent game discussed earlier.

Games within Games

Though such vertiginous manoeuvres generally had little effect on the car/avatar, beyond a few bricks shed on particularly spectacular impacts, it soon became apparent that the car/avatar could be destroyed if driven or dropped into the sea. Usually “death” in a videogame marks failure—temporary or terminal—and results in frustration for the player. However given that Jo’s exploration had no set goal and the fact that the game was configured to allow infinite numbers of lives, this repeated death became a simple game in itself, one in which he delighted. Jo would begin with the car/avatar at the race start, then deliberately veer it off the track to pursue the shortest route into the sea and hence into momentary death. The car/avatar would then reappear instantly, in a swirl of stars reminiscent of graphic conventions from comics and cartoons of minor head injury.



A new variation emerged. Jo found that driving the car slowly and carefully into the sea allowed a more nuanced experience of drowning than that offered by plunging off a cliff. The car could be directed into the water and gently nudged deeper, until, just before its uppermost point (usually the top of the driver’s head) was submerged, it “drowned.” The motive of this new game then was the identification of, and the edging

around, the precise point at which the game switched between life and death. The cars lurched up the cliffs, teetered at a vertex where dwindling virtual momentum succumbs to the faint but insistent pull of virtual gravity, and fell back, slowly, bouncing down to the beach. Down here the drowning game was reenacted, the car and driver held over the drawn sea, hovering, descending, then emerging again. The videogame world's liminal state between land/life and sea/death was, therefore, replayed out in an actual game environment, where the point of death (like the momentum/gravity vertex) was determined by an embodied articulation of videogame kinaesthetics.



On watching video footage of Jo playing (often attended and encouraged by his younger brother) it became clear that these improvised games were constituted by the complex interactions among: the gameworld's physics; the affordances of software elements (notably those of the car/avatar); the transmedial suggestions and humor of this particular game (linking it to prior knowledge of the Lego franchise in its actual instantiations); and the characteristics of more traditional children's play with toys, notably the pleasures of exploration and creative destruction. For example, one of the game's funniest features is that if a car suffers a particularly powerful collision then

virtual bricks will fall off it. Enough collisions and the car will eventually be stripped down to a chassis (with no apparent effect on its capabilities as a vehicle). One more crash, however, and (deliciously) the player is left with the “man” on his own to steer around the gameworld running delightfully on stiff little legs. We were all disappointed to find out, after much effort and experimentation with collisions and suicidal leaps into the path of non-player cars, that the game does not allow the man, as Jo put it, to further “break into two legs.”

This feature offers visual pleasures (the familiar form of knee-less Lego legs are now more hilarious in their frantic animation) but it also highlights the operations of vehicular affordance in the game. It is an unusual and perhaps unique device. Games such as the *Tomb Raider* and the *Grand Theft Auto* series periodically encourage or require players to guide humanoid avatars into vehicles, shifting control from the manipulation of human-shaped capabilities to motor-vehicle-shaped capabilities. In these other games there are instrumental reasons for this (shape) shifting between different kinds of control/movement, and specific affordances are granted or denied as part of the design of the gameplay.

The visual pleasures made possible by the car-less driver and by Lara Croft as popular screen media characters are, in play, inseparable from their transmedial circuits (through films, toys, posters, advertisements), their playful–instrumental affordances in the gameworld, and their kinaesthetic characteristics. A swift button press and Lara gracefully executes a somersault and roll, to face in the opposite direction, Uzis primed.

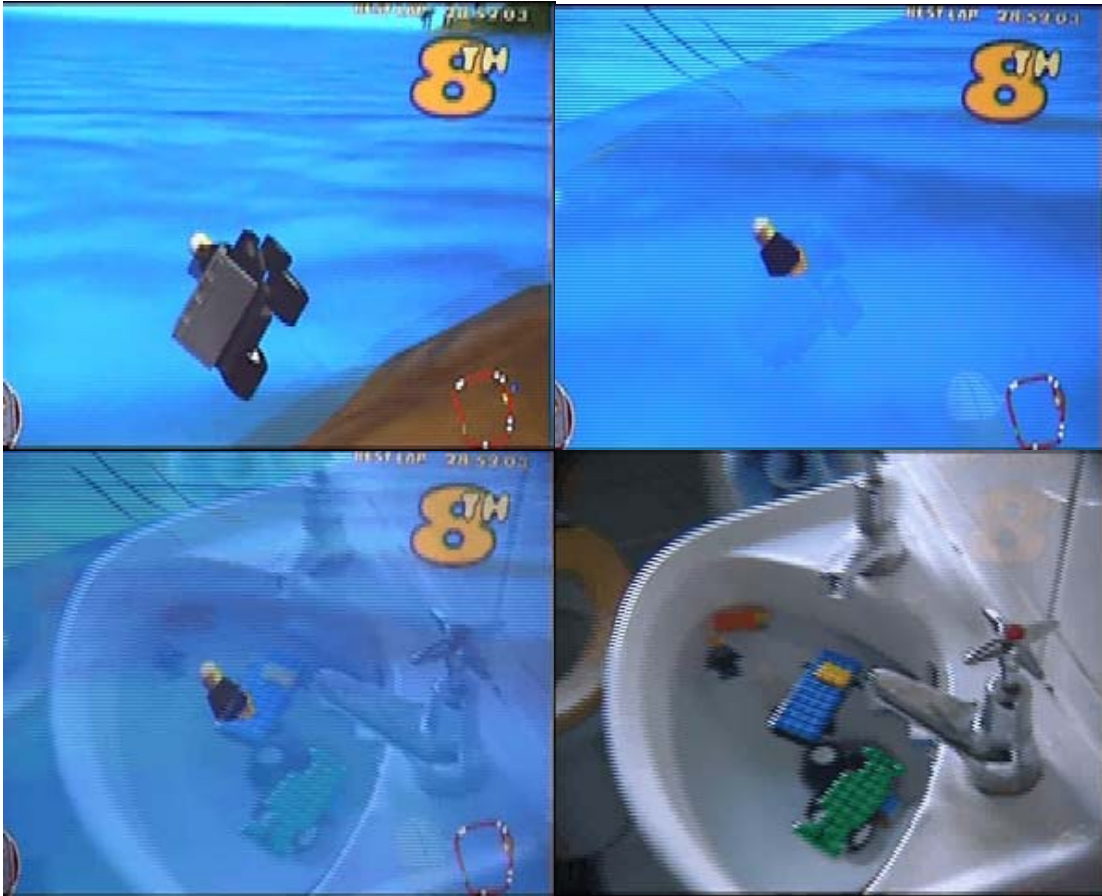
Hold ↑ in Sandy Bay and the car-less driver runs as fast as his little legs will carry him. He lacks Lara's elegant knees, but each get where they/their drivers want to go.

Whilst noninstrumental in terms of progression through the game proper, the little game of playing with the car-less driver is still motivated by the specific nature and operations of game software and the pleasure they offer. Jo's delighted attempts to "break myself into a man" demonstrate, first, the potential of the videogame to facilitate emergent play through possibilities and potentials embedded in the design rather than "rules." His subsequent attempts to "break myself into two legs" clearly highlight that these possibilities are not infinite (the software/designers did not anticipate or facilitate the real-time configuration of a player with a full sense of the surreal possibilities of play with Lego). Second, this feature offers a micro-spectacle, a sudden change in a main character is (initially at least) hilarious and clearly linked to both the high-impact aesthetics of cartoon animation and to a familiarity with the connective/destructive nature of actual Lego bricks. Third, the kinaesthetic elements of the game (as a piece of software or virtual world) and its aesthetic elements (screen images of living toys in vivid environments) are inseparable; they are articulated in the moment at which Jo/Lego/ man/car is broken into a man. The pleasure in running the little man up and down the mountains is, instantaneously and inseparably, a visual delight ("Look at him run!") and kinaesthetic play (*feel* him run, feel the play between his response to ↑ and the resistance from the virtual gravity) (Giddings & Kennedy, 2008; Salen & Zimmerman, 2003).

Translations or Transformations—From the Videogame to the Living-Room Floor

This cybertextual analysis begins to articulate the relationships between affordance and exploration which facilitate emergent and exploratory play in some videogames. I will explain how these relationships and circuits loop out into the actual games with toys and paper mentioned earlier. Two key loops between the virtual and actual worlds that I will concentrate on here (in addition to the translation of the kinaesthetics of virtual gravity and friction into an embodied kinaesthetics of actual play already described) are the translations of distinct videogame conventions (menu systems, e.g.) from the virtual to the actual; and, less obviously, how agency is translated between children, software, and other agents (both human and technological) (Latour, 1992).

Once they were familiar with the videogame, the boys began incorporating and translating the videogameworld and its conventions into their off-screen play. My younger son, Alex, for example, adapted characteristics from the videogameworld into his own well-established ludic universe of playing with swimming creatures and dramas in the bathroom sink. In particular he developed the dramatic (and presumably psychic) possibilities of immersion: he had found another way to “drown” the car driver, fusing his ongoing fascination with toys and water with the videogame-suggested event-horizon of life/death.



Not only were the images and actions of the computer game being played out with real toys, but *the ways* the boys played with their actual Lego blocks was now quite different from how it had been before their experience of the computer game. The boys were not only continuing the game of racing Lego cars begun on the computer screen (its characters, scenarios, and dramas), they were also playing with actual Lego as if it *were* a videogame. They were, on one level, *playing at playing a videogame*. For instance, the actual Lego cars and drivers were constructed through a translation of the videogame's menu-driven start-up processes.

Invited by the boys, not least because of the attention I was giving them, to join in their play (or rather, take direction from them), I was instructed to choose the cars and figures to be played with from a range they had built. Initially this choice was made as they were creating the vehicles, but later the process was repeated more formally, with cars and drivers neatly laid out on the table. The process of selection was incorporated into well-established patterns of their off-screen play: on-screen, no qualitative or quantitative value is placed on any selection, whilst in our living room the boys offered me a choice of two menus; each comprised of vehicles they had built individually. A familiar sibling/parent politics of attention-seeking and turn-taking was brought to bear: the eldest boy was most insistent, so his car was chosen first; his younger brother was keen to keep his menu in play though, asking, “later, can you choose this one?”



Initially I was able to observe these translations of agency because of the way I was positioned by the boys in relation to their actual game: I was not offered the chance to give any input into the design or construction of the actual cars (even for the one decision I was allowed—whether one driver should wear his baseball cap forward or

backward— it was made clear to me that “backward” was a preferable choice). Clearly I was not the empowered agent, or so it seemed. However, from studying the video record it appears that my role in these games did prove instrumental to opening a whole complex of actions, choices, and translations arising from the peculiarities of the videogame medium and its articulations or channeling of agencies. It became clear that an entirely unexpected set of shifting identifications and transformations were at play in these shifts from screen to living room and back.

As the boys careened across the floor, racing each other, crashing into and leaping over the mountains, I was instructed to “use the keyboard.” I was expected to play the role of the “player,” “clicking” (with my fingers on the arm of a chair or on a book) imaginary keys to make the Lego Racers go “forward!” and “faster and faster!” Of course my role was in some senses redundant—my finger movements had no influence on the direction or velocity of the Lego Racers (human or plastic)—yet the passion with which I was remonstrated when I stopped my performance indicated that this participation was, in some way, significant to them.



My role, then, was an apparently contradictory passive performance of interactivity. The videogame dyad, the circuit between player and avatar, was simultaneously collapsed and expanded: the boys and their cars were the avatars “in the game,” the agency of the player assimilated into the new boy/car/avatar and the residue (the empty performance of key pressing and looking on) displaced to another, “interpassive,” body. The sheer complexity of these circuits, translations, and feedback loops was brought home to me with the following sequence of events: at the start of the actual game, once cars and drivers had been selected, Jo asked me to write my name (“D.A.D.D.Y.”) on a piece of paper, a translation of the familiar entering of the player’s name or nickname at the start of the videogame.

This activity was consistent with my passive player role, but when I asked Jo why he wasn’t writing his own name, he replied, hesitantly, “I don’t have to ... I’m the one who makes the Lego Racers go ...” I tried to draw him on this, excited at the implications of this for theories of identification in videogames. That is, Jo might be identifying himself (through role-play) directly with the computer or computer game rather than the characters, the Lego car, or man. He was not the player and so he didn’t “sign in” but neither was he simply the “avatar.” It is then the game itself, perhaps thought of as the game software or engine, that actually “makes the Lego Racers go.” I asked Jo if he *was* the game, and he hesitantly answered “yes.” I realized though that I was pushing him and that if he was “playing *as* the game” in the sense I suspected, he wasn’t aware of it—at least not in the terms I was using. I stopped asking questions in this way.



For film studies, the concept of identification between (human) spectator/viewer and the screen text's (human) protagonists is frequently taken to be the key process by which spectators are positioned by, engage with, and make meaning of these texts (Metz, 1985; Mulvey, 1989). Game studies has drawn on these theoretical approaches to explore the relationship between the player and avatar. For some game studies scholars then, it is this process of identification that is key—and is perhaps even more significant given the player's control over their avatar (Lahti, 2003; Rehak, 2003). Yet, in this microethnography it becomes apparent that something more complicated is going on in the translation of the player's agency in the virtual world to the actual game. Jo, as "the one who makes the Lego Racers go," unselfconsciously adopted a play role that could not be mapped onto: the videogame avatar (the Lego man/car), the actual toy Lego man/car, or the human player of the videogame. The children's translation of the virtual game into actual space provokes a set of interesting questions: what does it mean to identify with the computer or with the processes of software? How does this identification operate if, as is apparent, it is not at the level of straightforward make-believe ("I'm a computer") or the product of cybercultural musings on the status of the

relationship between human and computer? At the very least, the term identification tends to assume that a coherent, bounded subject can become identical with a coherent, bounded object. Jo's statement that he is "the one who makes the Lego racers go" strongly suggests that this identification is premised as much on the videogame's material distribution of agencies and positioning of agents as in imaginative role-play or ideological interpellation and hence exceeds the concepts of identification and subjectivity.

So, Jo's refusal to write his name in the actual version of the videogame's signing-in screen because he was "the one who makes the Lego Racers go" was not motivated by any mirroring identification with the computer or game-as-system. He was positioned or disposed by the game event's translations of agency of which he was an integral part. He had to be an agent, but not the player (delegated to another human component) or the avatar (he was still driving the car/driver avatar). The game is the only agent left. An imaginative event was, therefore, configured by a real relationship between agencies and entities. In the virtual game Jo was playing *with* the whole gameworld/system, in the actual game he was playing *as* the gameworld system; not one character within a screen fiction, but rather the whole universe that makes the Lego Racers go.

Conclusion

In this microethnographic study of boys' incorporation of features of computer videogame play into their off-screen play, it became apparent that the established distinctions between the virtual and the actual across the diverse conceptual

frameworks of new media studies are inadequate. Through play these boys shifted across these two spaces with ease, their play adapting to the different environments, environmental resources, and the capabilities and possibilities they afforded. The virtual space in this event of gameplay was neither an ideological illusion, nor a transcendence of the everyday and embodied. The virtual and the actual were each contained within the other, intertwining, each inflected by the other.

The virtual space of *Lego Racers 2* subjects its players to a range of simulated physical forces. Most notably, the boys quickly, and apparently unconsciously, acclimatized themselves to the effects and possibilities of weakened virtual gravity. The playful and vertiginous kinaesthesia coded into the gameworld made new kinds of games possible within it (e.g., the repetition of ascent and descent, or the exploration of the cusp between the avatar's "life" and "death" in the sea) and outside it (through the transformations of play and movement between children's bodies, toys, and domestic space suggested by the gameworld).

Even in this small study, conventional notions of spectatorship or identification with screen characters are undermined. The shifting of players' identification with screen images is driven more by the demands of the various games in play here, than any sense of ideological investment by a subject positioned in relation to a fictional protagonist. These boys slip between a number of identifications: being the virtual Lego men and being the virtual Lego car-driver dyad; being the constructors of these men and car-men; being at once the child playing with the actual Lego car-men, and coextensive with the car-men they are propelling around the room; being the player of a videogame

and being a meta-player (perhaps the computer or game-system itself) in an actual game. Other agencies are imaginatively displaced onto other human participants in the shift from play in virtual to actual worlds.

Reflecting on the findings of this little study, it became apparent to me that my microethnography is not just a variant of an existing set of methods, but rather that it facilitated, indeed necessitated, a more fundamental rethinking of the proper objects of ethnographic research. The micro-events and relationships identified here cannot be separated out into familiar dynamics or entities. It becomes clear, for example, that videogame players are acted upon as much as they act, that they must work out what the machine wants them to do (or what it will allow them to do) as well as engage with it imaginatively. A key term to understanding children's play on and off-line is thus agency (rather than subjectivity), an agency that cannot be restricted to discussions only of the human participants. We must also inquire as to who or what the agents are in these circuits, and develop conceptual resources that can be called upon to allow new media studies to identify and study them. However, this emphasis on describing and theorizing the operations, agencies and effects of nonhuman participants in children's videogame play should not lead us to disregard concerns about human desires, anxieties, identifications, and investments as players in these media technocultural events. As we saw earlier in this chapter the different games were spun into being through the tastes, personalities, and abilities—technicities—of the two boys as well as the material affordances of computer hardware and software simulacra (Dovey & Kennedy, 2006). If code and information must be understood as real, material, of the

world, then so too can the intangible yet real, embodied yet distributed, monstrous, operations of human factors— perception, imagination, creativity, anxiety, play— without always already reducing these to the reassuring singularity of identity or subjectivity. The multiple translations, variations, and transformations of the Lego videogame both on and off-screen that we have been examining in detail in this chapter, reminds us of the wide range of possibilities and the complexities in children’s play and in the varying networks that facilitate but also shape that play.

References

- Aarseth, E. (1997). *Cybertext: Perspectives on ergodic literature*. Maryland: The John Hopkins University Press.
- Alloway, N. & Gilbert, P. (1998). Video game culture: Playing with masculinity, violence and pleasure. In S. Howard (ed.), *Wired up: Young people and the electronic media*, pp. 95–114. London: UCL Press.
- Dovey, J. & Kennedy, H.W. (2006). *Game cultures: Computer games as new media*. Milton Keynes: Open University Press.
- Facer, K., Sutherland, R., and Furlong, R. (2003). *Screenplay: Children and computing in the home*. London: Routledge.
- Flynn, B. (2003). Geography of the digital hearth. *Information, Communication and Society*, 6(4), 551–576.

- Friedman, T. (1995). *Making sense of software*. Retrieved June 11, 2000, from <http://www.duke.edu/~tlove/simcity.htm>.
- Giddings, S. (2003). Circuits: A video essay on virtual and actual play. In M. Copier & J. Raessens (eds.), *Level up: Digital games research conference* [CD ROM]. Utrecht: Faculty of Arts, Utrecht University Press.
- Giddings, S. & Kennedy, H. (Forthcoming: 2007). Little Jesuses and fuck-off robots: On aesthetics, cybernetics and not being very good at *Lego Star Wars*. In M. Swalwell & J. Wilson (eds.), *Gameplay: Pleasures, engagements, aesthetics*. Jefferson NC: McFarland.
- Green, B., Reid, J., & Bigum, C. (1998). Teaching the Nintendo generation? Children, computer culture and popular technologies. In S. Howard (ed.), *Wired up: Young people and the electronic media*, pp. 19–42. London: UCL Press.
- Ito, M. (1998). Inhabiting multiple worlds: Making sense of SimCity 2000™ in the fifth dimension. In R. Davis-Floyd & J. Dumit (eds.), *Cyborg babies: From techno-sex to techno-tots*, pp. 301–316. London: Routledge.
- Kinder, M. (1991). *Playing with power in movies, television and video games: From Muppet Babies to Teenage Mutant Ninja Turtles*. Berkeley: University of California Press.
- Kline, S., Dyer-Witthford, N., & de Peuter, G. (2003). *Digital play: The interaction of technology, culture and marketing*. Montreal: McGill-Queen's University Press.

- Lahti, M. (2003). As we become machines: Corporealized pleasures in video games. In M. Wolf & B. Perron (eds.), *The video game theory reader*, pp. 157–170. London: Routledge.
- Latour, B. (1992). Where are the missing masses? The sociology of a few mundane artefacts. In W. Bijker & J. Law (eds.), *Shaping technology/Building society: Studies in sociotechnical change*, pp. 225–258. Cambridge MA: MIT Press.
- Manovich, L. (2001). *The language of new media*. Cambridge MA: MIT Press.
- McNamee, S. (1998). Youth, gender and video games: Power and control in the home. In T. Skelton & G. Valentine (eds.), *Cool places: Geographies of youth cultures*. London: Routledge: 195-206
- Metz, C. (1985). *Psychoanalysis and cinema: The imaginary signifier*. London: Macmillan.
- Morris, S. (2002). First-person shooters: a game apparatus, in G. King and T. Krzywinska (eds) *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower, pp 81-97
- Mulvey, L. (1989). *Visual and other pleasures*. London: Macmillan.
- Rehak, B. (2003). Playing at being: Psychoanalysis and the avatar. In M. Wolf & B. Perron (eds.), *The video game theory reader*, pp. 103–128. London: Routledge.
- Salen, K. & Zimmerman, E. (2003). *The rules of play: Game design fundamentals*. Cambridge MA: MIT Press.
- Sefton-Green, J. (2004). Rites: A small boy in a Poké-world. In J. Tobin (ed.), *Pikachu's global adventure: The rise and fall of Pokémon*, pp. 141–164. Durham: Duke University Press.

Walkerdine, V. (1986). Video replay: Families, film and fantasy. In S. Thornham (ed.)

Feminist Film Theory: A Reader, Edinburgh: Edinburgh University Press, pp. 180-195

Wright, T., Boria, E., & Breidenbach, P. (2002). Creative player actions in FPS online

video games. *Playing Counter-Strike, Game Studies*, 2, 2. Retrieved July 9, 2004,

from <http://www.gamestudies.org/0202/>