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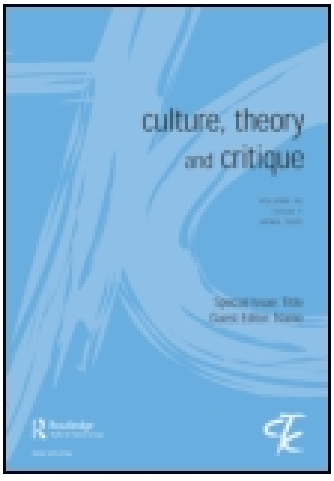

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Rubble Jumping: From Paul Virilio's Techno-Dromology to Video Games and Distributed Agency

Rebecca Carlson and Jonathan Corliss

Abstract *Arguing towards a theory of dromology, Paul Virilio engages at every turn with the consequences of acceleration on society – primarily the ever-increasing speed of information transmission – on society. This paper uses Virilio's theories, specifically his arguments surrounding the impact of acceleration on our experiences of space, to question the workings of agency between humans and technology. Looking specifically at video games and the practice of modding to make user-generated machinima, this paper suggests that a simple binary positioning of humans and techno-agents is an insufficient way to approach the relationships, patterns, effects and outcomes that emerge at the juncture of humans and 'their' technology. Instead, this paper suggests a model of agency that does not privilege a techno-agent, as in the case of Virilio, over a human agent and suggests that it is potentially more useful to consider agency as distributed between, among and across, an assemblage of both human and non-human actors. The aim of this paper is also to consider what anthropological enquiry, and by extension its methodologies, can contribute to a discussion of Virilio's work.*

> The 'real-time' tele-reality is supplanting the reality of the real-space presence of objects and places, now overridden by electro-magnetic paths. (Virilio 2000: 6)

Jumping

A user-created video, 'Halo: Rubble Jumps and Such', documents video game players manipulating their 'Spartan' avatars from the popular 'Halo'[1]

This paper is a modified version of a paper presented at the 2005 American Anthropological Association National Conference in Washington, DC. That original paper was titled 'Cyber(space), Place and Virilio' and has been elsewhere cited as 'Cyber(space), Place and Virilio: The Online Spaces of SOCOM: U.S. Navy SEALs, or How I Learned to Shoot the Terrorists'.

[1] 'Halo' (2000) and 'Halo 2' (2004) are produced by Bungie and distributed by Microsoft Game Studios. As of May 2007 there is currently a 'Halo 3' game in production slated for release in September.

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video game series; and by manipulating, I mean jumping. An edited recording of gamers' in-game actions, this machinima,[2] uploaded and viewable at GameTrailers.com, depicts user-controlled avatars performing a series of jumps in the game environment. And in this case, jumping is exactly what it sounds like: a user positions their avatar at a starting location and then jumps to another spot; from the ground to a platform, from a platform to a box, to the window ledge of a building. Jumps are often more intricate, however, and even have names: '360 long jump'; 'juggle slide jump'; 'long jump juggle reverse'; '180 hop'; 'triple juggle'; 'backwards blind jump'; 'double door jump to 360 jump' ('Halo 2 Jump Tactics 3' 2007). Jumping might sound boring – planning it, doing it, recording it and posting it in edited form, with music, on the Internet – but this video, and others like it, addresses an audience which is already completely aware of the skill, time and energy it takes to perform such jumps. The visual results of these gamers' feats are more impressive if you are already familiar with the experiences of gameplay, controlling an avatar's movement through a game environment's inevitable limitations. It might even take playing multiple rounds of 'Halo' or 'Halo 2' multiplayer[3] to fully appreciate the way that jumping is a central – and even intricate – component of 'Halo's' gameplay experience.

Rubble jumping, however, is not your typical jump; it is far more complicated to perform and directly engages with the game's physics engine. Rubble jumps require jumping off rubble, pieces of – or objects in – the game environment that are in motion: rocks, boxes, vehicles, bits of an exploding building, even grenade-blasts made objects with force through the physics of the game. What is especially complicated about these jumps is that this rubble has to be put in motion by the gamer and the jump itself as a result has to be perfectly timed.

In general, these jumpers are not anarchists; they do not believe in cheating or completely manipulating the video game environment. However,

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[2] Machinima, a merging of 'machine' and 'cinema', are animated videos made in real-time 3D game environments, usually by gamers and fans. For more information and examples see Machinima website (2007).

[3] Multiplayer is a mode of video gameplay that differs from, but is usually included with, the single player portion of a game. There are a variety of types of multiplayer game modes, however. Multiplayer for first-person shooter games like 'Halo' and for third-person shooter games like 'Rainbow Six: Vegas' is relatively similar: multiplayer may be played with friends in person or may occur with distant gamers over an Internet connection. It is typically based on rounds and often involves a maximum number of gamers (16 for example) split into two teams or pitted all against each other. While the game world – characters, weapons and environments – is similar to the single player portion of the game, multiplayer typically does not adhere to the narrative structure of the main game.

through a particular series of modifications or softmods[4] to their Xbox, jumpers do directly manipulate the programming code of the game through 'cheats': 'Infinite health/ammo(no reload)/[gre]nades and savestates. For filming purposes, we use a flycam and timefreeze' ('Jump Tactics' 2007). A group, or clan, of 'Halo' jumpers called 'Jump Tactics' created a mock interview session – posted to their website – addressing questions and concerns about the mods that they use in order to perform jumps in the creation of their machinima:

> Q: Why do you use mods?
> A: We use mods to expand the current limitations of the game. Modding allows for more complex, creative, and skilful jumps to be performed. It also makes jumping more fun because it allows for new discoveries, as well as a new level of competition.
> Q: But I don't like modding…RAWR!!!
> A: That's not even a question…but I'll reply by saying you probably don't like modding because you think we are cheating or changing the gameplay. By that I mean making the jump height .01 higher than normal, or the rocket/nade force .01 more powerful. We do not change the physics in the game at all, and you just have to trust us on this. We could if we wanted to, but that would ruin the fun for us, and that's why we do this in the first place. ('Jump Tactics' 2007)

The physics engine in a video game is the set of codes responsible for calculating – typically in real-time – in-game objects and their relationships to mass, velocity, gravity, friction: 'When two bodies interact, the physics "engine", the portion of the computer code that handles the physics, first computes the forces on each object, including gravity, collisional impulses, and friction. It then solves the constrained differential equations of motion governing the components of each body and moves them forward in real time' (Sincell 1999: 398). Push a box forward, throw a grenade, watch it land and blow up a portion of a building's wall, that is the physics engine at work.

'Jump Tactics' jumpers consciously avoid directly manipulating the physics of 'Halo'. Instead they use mods like statesaves – saving your current 'state', location on the map, placement of items, so you can reload from that

[4] Softmodding is the alteration of a console's performance through the application of software rather than hardware modification such as the installation of a modchip. Modding can refer to the act or processes of modifying a PC or gaming console as well as to the product of using those modifications. Product modding takes many forms, from partial (adding new weapons, quests or items) to full conversion (completely changing the game environment, story and characters) and requires a range of expertise and knowledge. Softmodding 'how-tos' are easy to access on the Internet and quite a few computer and console games come equipped with, or have available separately, tools to mod. 'The Elder Scrolls Construction Set' (2007) released by Bethesda to modify their games 'The Elder Scrolls III: Morrowind' (2002) and 'The Elder Scrolls IV: Oblivion' (2006) is a good example ('The Elder Scrolls Construction Set Wiki' Website 2007).

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point later – to 'take away all the pointless annoyances of a jump' like returning to the top of a tall building over and over again if your jump fails or pushing boxes around again until they are in just the right spot needed to perform the rubble jump. Mods like statesaves, they argue, 'allow you to actually focus on the jump, which in turn, makes jumping more fun' ('Jump Tactics' 2007). In many ways, rubble jumping is play *with* physics; jumping directly engages with, relies on, the calculations of the engine around the motion and interaction of objects – boxes, the force of grenade explosions, avatar movement – in the environment. While directly concerned with how to make several grenades explode at once to propel a vehicle to the right height so that jumping off it at the right moment will allow you to jump to that out-of-reach ledge, physics is ultimately the thing that jumpers strive to master; making it work for them without modifying it is where the fun comes in. However, for 'Jump Tactics' clan members, manipulating the code *around* the physics is fair game.

'Learning is the crucial impulse in the evolutionary process of exploring and playing a game […] in order to really play […] the participant must learn its rules and the expectations that have been built into its structure' (Burnett 2004: 176, 194). While this may be true, breaking the rules once they are learned, or outright defying them from the beginning through mods or other means, is just as crucial an element of gameplay. Modding is a process of actively constructing yourself as an individual with agency in the game, consciously pressing up against, and altering, the programmer's rules. Modding does this directly, but general gameplay itself is often a process of manipulating a game's structure, though less invasively. Rather than rewriting or altering code, players' actions within a game environment can very often take a form contrary to, or unanticipated by, the programmer's intentions. For example, in online multiplayer sessions of the Ubisoft's 'Rainbow Six: Vegas' (2006), gamers manipulate the structure of the multiplayer rounds to suit their needs. In the mode 'Attack and Defend', the 'Attack' team must move in on the 'Defence' team's location, secure the 'package' and return with it to a helicopter waiting for extraction. The 'Defence' team members must work together to protect the package and eliminate any 'Attack' team members who are carrying the package to help prevent its removal to the helicopter – once the carrier is killed, the package remains in the same spot until someone else picks it up. The parameters of this mode are relatively straightforward and are typically adhered to, with one notable exception. With the offensive advantage, a little bit of teamwork and skill is all it takes for the 'Attack' team to secure the package and, relatively quickly, return it to the helicopter, ending the round. However, as the game keeps track of the number of kills that each gamer has and posts players' totals at the end of a round, most gamers are competitively more interested in 'racking up kills'. This is often in direct conflict with the goal of returning the package. As a result, it is generally agreed upon by the members of the 'Attack' team to avoid returning with the package until the very end of the twenty-minute round. Often the package is brought to a halfway point and left while all gamers attempt to kill as many opposing team members as possible. Another common solution is for the package carrier – if he is able to take the package all the way to the roof where the helicopter is waiting – to stand over his own

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lobbed grenade in order to commit suicide, dropping the package next to the extraction point. Then everyone can get on with fighting it out, racking up their statistics and the 'Attack' team can decide at the last moment whether they want to finish the round as the programmers intended.

> The feeling of agency [in a video game], […] is less one of power over internal narrative sequence, as many critics of interactive fiction might argue, rather, agency in computer games involves the gamer's participation within a virtuoso performance of technological expertise […] A key component of delight in computer games is user-driven exploration and discovery within a virtual space. (Mactavish 2002: 40)

Glitching – a type of gameplay that directly engages with errors or mistakes in the code of the game – offers another example. Gamers who glitch, play by explicitly seeking out, experimenting with and exploiting glitches in the game. Rockstar's 'Grand Theft Auto III' (2001) game is well known for its extensive amount of non-fatal glitches – errors that change or alter gameplay but do not break the game or make it unplayable. When glitching, gamers ignore, resist or mutate the narrative or structural boundaries of the game. Instead, they spend their time intimately exploring and manipulating the game world: finding places to walk on air or walk through walls that are supposed to be solid; getting 'hobos' to duplicate excessively in a tunnel; dropping down into, and then running around in, 'Blue Hell' underneath the map of the game; using the Dodo plane to fly to 'Ghost Town', a block-long strange shell of building facades that sit alone out on the ocean, disconnected from the rest of the map. Communities, websites, message boards, forums – and now Youtube videos – sprang up around the shared desire to find glitches in 'GTA III' and then show-off, exchange and discuss them with other gamers. In 2003, one gamer on the GameFaqs.com message board for 'GTA III' captured why glitching is so compelling: 'Many of us get a thrill out of pushing the game engine to its limit, finding and performing glitches, exploring and swashbuckling around in Liberty City. There's a lot more to this game than the missions. One of the fun things is trying to get around the barriers the game gives you' ('Game Faqs Grand Theft Auto III' Message Board 2003).

With these examples then, I could argue that gamers, especially those with enough knowledge to mod or to rewrite code completely themselves, have complete agency, and are fundamentally in control of the game and by extension, their gaming experience. Through manipulation, directly and indirectly, and the use of mods or even the creation of new code – spawning new user created games and game worlds – gamers are the ultimate agents in their interactions with this technology. And rubble jumping is only a modest example.

On the other hand, I could widen the circle of focus and argue instead that everything that can or does happen, even unintended, even modded, manipulated or broken, is still within the parameters of the game, bound ultimately by the hardware – motherboards, circuitry, electromagnetic signals. While as a gamer one might be able to rewrite code and escape rules, narrative elements or structural requirements, it is not possible to escape the

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meta-rules, the technology itself. I could generalise then and suggest, that, while jumpers may not realise it, technology has complete agency over them – their expectations, understandings, desires. Looking from within, from what appears to be a tightly enclosed system made, not of gamers' actions but of code and hardware, it is easy to imagine that technology fundamentally structures experience.

But who has agency over the production of technology? What happens when I widen that circle farther, outside the pulsing box of wires and whirring disc drives, outside the home where the gamers and their consoles live? This seemingly closed system reveals tendrils that stretch out much farther than a jumper's eye can see, not only connecting but weaving together producers, makers, marketers, distributors, users. How do we account for the social entities that subsume this technology, video game fan communities, production and development companies, journalists, ratings-boards, nation-states? In this technological moment – a 'Halo' jumper bounding from rock to window ledge in a 360 turn – who is the ultimate agent?

This question itself may be misleading. In fact, what I hope to illustrate is that these agencies are interconnected, knit up tight, dependent on each other; while the categories of our technological conceptualisations position human and non-human as opposites, things vying against each other for agency – and there can only be one winner in this binaristic scenario – it is more worthwhile to acknowledge that agency is not an either/or – agency is itself distributed along a network composed of humans and non-humans. 'Computer games are the firmest indication yet of the degree to which humans and their technologies have become not only interdependent but also profoundly interwoven' (Burnett 2004: 168). Video games – as both material culture objects enmeshed in social networks and as mass media commodities situated at the nexus of enquiries about technology, virtuality, mobility – are an ideal example with which to discuss distributed agency.

At this point, the reader might be wondering how I intend to make the jump from rubble jumping to Paul Virilio. It is important to be clear that I do not intend a rigorous analysis of all of Virilio's theories on technology, nor do I include all of the criticism and analysis of his work – of which a great deal has already been written (see for example, Armitage 2000; Redhead 2004). The aim of this paper from its inception has been to consider what anthropological enquiry, and by extension its methodologies, can contribute to a discussion of Virilio's work. I intend quite simply, to consider only one small portion of Virilio's contributions to the discussion of technology's impact on lived experiences. For me, the connection between rubble jumping and Virilio is a question of agency.

Doomed to inertia?

Arguing towards a theory of dromology, Virilio engages at every turn with the consequences of the acceleration of technology on society. For my part, I am most provoked by Virilio's musings on how acceleration, primarily the ever-increasing speed of information transmission, has impacted on our experiences of space. Virilio characteristically declares: 'we are losing our sense of space', as we increase the speed at which technology operates and

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information transmits; the consequences of 'this rush to terminal velocity is that space – the space of the city, of the environment, of the body – is being sacrificed to time' (Murphie and Potts 2003: 36). This compression is evidenced for Virilio in the 'audio-visual vehicles' that bombard and consume our daily lives: 'live' broadcasts of images and information on television screens and instantaneous global communication and data transmission via computers and the Internet. Like the passive automobile passenger, a spectator to the unfolding landscapes that quickly flash by beyond the glass windshield, Virilio argues that the consumer of audio-visual vehicle spectacles is 'doomed to inertia' (Virilio 1997: 16):

> Even the latest supersonic fighter aircraft are designed around the cockpit – or, in other words, around the instrument panel and ejector seat of the 'elite pilot' who has become the perfect example of the disabled person, his very survival depending upon the motor and audiovisual feats of his equipment. (Virilio 2000: 26)

For Virilio, technology at its root is a disabler. As it integrates, situates, itself into the fabric of our everyday lives, we sacrifice our bodies, our able-ness, along with our sense of perspective and space. While academics might argue whether there is anything 'new' about emerging technology, Virilio sees the advancing march of technology's newness as replacing and displacing. In an interview with Philippe Petit, Virilio explains: 'Nothing can be gained without loss. When a technical object is invented, say the elevator, the stairway is lost; when the transatlantic airlines are created, the ocean liner is lost…' Petit completes his thought: '…and when the high-speed train is invented, the landscape is lost' (Virilio 1999: 33). Like the elite pilot, we are nothing without our control panels; we are strapped in, no longer here or now, no longer capable of seeing the landscape – it is disappeared by the speed of our technologically-enabled movement. 'The more speed grows, the more "control" tends to supplant the environment itself, so that the real time of interactivity finally replaces the real space of bodily activity' (Virilio 2000: 76). For Virilio, the existence of real space – a real landscape now blurred and indistinguishable from the windows of our high-speed trains – is an ontological given. The uncontrollable speed of motion, of transatlantic flights, of data along fibre optic cables, the dizzying rush from elevators rising hundreds of floors into the sky, all this erases real space; our ability to sense this space, to anchor ourselves in it properly, to live in it.

As a result, Virilio often *seems* to suggest that technology is changing, not merely our perception and experience of space, but space itself. Miles Richardson reminds us, however, that the '"world" is not an external thing, existing apart from our actions and awaiting our entrance; but it is dependent on our *being in*. Through our actions, our *inter*actions, we bring about the world in which we then are; we create so that we may be, in our creations' (Richardson 2003: 74, emphasis in original). To imagine the actual disappearance of space, as Virilio seems continually to describe, may be to reduce the complexity of his argument. Virilio eventually explains: 'To me, to disappear does not mean to become eliminated. Just like the Atlantic, which continues to be there even though you can no longer feel it as you fly over it' (Virilio

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quoted in Redhead 2004: 154). In this case then, what disappears for Virilio might not be real space (the Atlantic hasn't itself vanished or grown smaller), but our previous experiences of that space (we don't touch, see or feel the sea as we glide over it). Still, to presuppose that there existed a more 'authentic' experience of the Atlantic (the waves smashing into a wooden dory?), an original, that was supplanted by transatlantic flight is misleading; it privileges and reifies an imaginary pre-technological, unmediated experience; universalises it, and ignores what Richardson has counselled us to remember: space is entirely dependent on our being in it.

To meet at a distance, at opposite ends of the globe

> But, before broaching the issue of our future **tele-existence**, we might take another look at this electromagnetic *large-scale optics* that now enable us to meet at a distance, at opposite ends of the globe. The direct lighting of the day star that breaks up the activity of our years into distinct days is now supplemented by indirect lighting, the 'light' of technology that promotes a sort of personality split in time between the real time of our *immediate activities* – in which we act both here *and* now – and the real time of a *media interactivity* that privileges the 'now' of the time slot of the televised broadcast to the detriment of the 'here', that is to say, of the space of the meeting place. In the manner of a teleconference that takes place thanks to a satellite, but which does so, paradoxically, nowhere in the world. (Virilio 1997: 37, emphasis in original)

Virilio's technological dystopia configures the teleconference as an unreal, placeless experience happening only along the wavelengths of satellite signals – happening nowhere; the body's locality is lost, connected as it is through these signals to a previously unimaginable distant subject. The boundaries that should properly separate spaces – the near from the far – are eroded. This disappearance of space results in our inevitable disorientation and inertia. Like the teleconference, 'television and multimedia are collapsing the close shots of time and space as a photograph collapses the horizon in the telephotographic lens. Thus, speed enables you to see differently' (Virilio 1999: 21). What we can now 'see and foresee' with the aid of speed – 'to foresee today with electronics, the calculator and the computer' (21) – disturbs and fractures our senses, ourselves, our connection to others. Audio-visual vehicles moving at light-speed have the 'capacity to affect all aspects of social life, insofar as it involves the reconfiguration of borders of all kinds, from the physical boundaries of our houses, cities and nation-states, to the more immaterial architecture of our thought' (McQuire 2000: 145–46). Without these clearly defined borders and neat boundaries – inside from outside, self from other, centre from periphery – Virilio argues that our very subjectivities and social relationships are transformed.

Such dichotomies – embodied in the teleconference's disruption of the near from the far by voices transported across distances – critically frame Virilio's techno-dromology. If we are sedentary, it is only because there is a

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real space, a real reality that can be replaced by otherness, an opposite, a tele-reality. 'Doomed to inertia, the inactive being transfers his natural capacities for movement and displacement to probes and scanners which instantaneously inform him about a remote reality, to the detriment of his own faculties of apprehension of the real' (Virilio 1997: 16). Virilio continually cautions us against this remote tele-reality's instantaneous and ubiquitous erasure of reality; to the numbness that will overtake us as – strapped into technology's cockpit – the 'probes and scanners' replace our body's ability to apprehend itself and the space that surrounds it. Throughout his work, Virilio assumes these binaries – real and not real, natural and unnatural, able and dis-able, human and non-human – to be given: categories of experience that are static, non-contingent, universal.

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On or off?

> Note once again that, beyond the confines of proximity as we know it, prospective **telepresence** – and shared **tele-existence** with it – not only eliminate the 'line' of the visible horizon in favor of the linelessness of a deep and imaginary horizon. They also once again undermine the very notion of **relief**, with touch and **tactile telepresence at a distance** now seriously muddying not only the distinction between the 'real' and the 'virtual', as Cybersurfers currently define it, but also the very reality of the *near* and the *far*, thus casting doubt on our presence *here and now* and so dismantling the necessary conditions for sensory experience. (Virilio 1997: 45, emphasis in original)

Virilio's techno-dromology privileges an all or nothing, a binarism. As humans, we are unable to act or react, our agency is decentred, or rather disappeared by the overpowering techno-agent: the control panel, the virtual reality glove, the 'home installation of domestic simulators and virtual space rooms for game-playing' (Virilio 2004). Virilio's theories privilege multiple binaries: a technological agency dismantling human agency; a virtual replacing a real; a near indistinguishable from a far. As a result we lose 'the necessary conditions for sensory experience' and our ability to distinguish cause from effect. Virilio's example of the tele-conference – eroding our spatial coordinates, connecting inert bodies no longer separated by actual distance but instead tele-present – extends these dichotomies by proposing that the 'offline' (human/space/senses) is dissolving, and can be replaced and displaced by 'online' (non-human/satellite signals/probes) technology.

These binaristic categories – real/virtual, online/offline – are often characteristic of technology research and theorising, particularly for scholars like Virilio who are concerned with the impact of emerging digital media and information technologies. Still, other academics suggest that the dichotomy between 'online' and 'offline' categories creates misleading, unnatural distinctions. Bonnie Nardi argues that, 'cyberspace is embedded in real life (RL). There is no difference between the two, but, as we try to come to grips with a profoundly new technology, we confusedly talk as though interacting

through and with computers is something totally outside human experience' (Nardi 1996: 34–35).

Toby Miller suggests these dichotomies are not simply the result of grappling with 'a profoundly new technology'; rather they are an intrinsic part of our amnesiac and cyclical process of assimilating newness. In his article, 'Gaming for Beginners' (2006), Miller sketches the history of utopian/dystopian binarism that has continually shaped the way we evaluate and incorporate technology, and non-human entities, into our lives. Virilio's binaristic perspective is not necessarily a new way of seeing then; his fear over the erasure of the real, of the body, of space, echoes centuries of human panic and elation – and the resulting compartments of analysis – regarding the development of technology and technological practices. In contrast, Samuel Wilson and Leighton Peterson propose:

> that closer attention be given to deconstructing dichotomies of offline and online, real and virtual, and individual and collective […] Our view, and one that seems most consonant with current anthropological theory and practice, is that the distinction of real and imagined or virtual community is not a useful one. (Wilson and Peterson 2002: 457)

While Daniel Miller and Don Slater also caution us 'to treat Internet media as continuous with and embedded in other social spaces […] they happen within mundane social structures and relations that may transform but […] they cannot escape into a self-enclosed cyberian apartness' (Miller and Slater 2000: 7), binaries continue to shape technology research; the virtual/real binary is echoed in the way we – even without the help of Virilio – imagine, discuss and evoke our relationships to technology. Despite the problems with terms like online and offline, we seem unable to do without them.

Assembling assemblages

> It is increasingly clear that human agency serves in the world today as but one contributor to activities that are growing in scope, that are complex and diverse, and yet are interconnected. (Downey *et al.* 1995: 266)

Now to return to the earlier question surrounding jumpers: in the very act of rubble jumping, who is the ultimate agent, the console or the person holding the controller, the human or the non-human? For Virilio, the answer seems easy; the hardware – wires encased in a box, plugged into an outlet and a phone line – will always win. Similar to Virilio's teleconference that happens nowhere, a 'Rainbow Six: Vegas' multiplayer session can connect bodies across great distances. Gamers 'enter' each other's homes – into their ears through the voice-activated headset – with only a cursory introduction, disrupting public space from the private. These multiplayer rounds, they 'exist' on servers somewhere removed from me – though I have never actually seen them, and while playing, we all, I imagine, sit inert on our couches/

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recliners/floors/chairs chained by a remote sensor to the boxes in front of us. Are we all then dis-abled, dependent, disappearing as Virilio might argue? Is the very materiality of the space around us – that old scratchy couch, the dog across the street that will not stop barking – erased by our absorption in the game? Aren't my fellow gamers more than tele-present – despite the technology that mediates between us – and in fact materially present through the pulses of their controllers, the electromagnetic signals that communicate between their button presses and my own hardware that receives them (even if passed first through a remote server)? And what happens when following the rules of 'Attack and Defend', I return the package to the helicopter five minutes before the end of the round? Instead of 'gg' – good game – I get curses. By following the game's instructions, I have failed to adhere to the social rules implemented by the gamers themselves.

Virilio advises us to 'deconstruct the game in order to play with it. Instead of accepting the rules, challenge and modify them. Without the freedom to critique and reconstruct, there is no truly free game: we are addicts and nothing more' (Virilio 2004). Unfamiliar with modders or the act of play through reinvention, Virilio's advice misses the critical, constitutive role of manipulation and destruction in all gameplay; he fails to appreciate that manipulation is *always* already present. Here again Virilio cautions against complacent addiction, inviting us to imagine the consequences of technology: those elite pilots disconnected from sensory experience and important societal connections, capable only as a result of their technological dependency. If it is true, as I have tried to demonstrate with rubble jumping and as Joost Raessens also argues, that 'users are not only caught in the system but also appropriate and domesticate […] technologies' (Raessens 2006: 54), then a simple binary positioning of a tug-of-war between humans and techno-agents is no longer a sufficient way to approach the relationships, patterns, effects and outcomes that emerge at the juncture of humans and 'their' technology. Instead, we need to move towards a model of agency that does not privilege a techno-agent (as in the case of Virilio) over a human agent, or even the other way around for that matter. What we need to consider is the way that agency is distributed between, among and across an assemblage of both human and non-human actors: '…a distributive, composite notion of agency; an agency that includes the non-humans with which we join forces or vie for control' (Bennett 2005: 448).

> The electrical power grid is a good example of an assemblage. It is a material cluster of charged parts that have indeed affiliated, remaining in sufficient proximity and coordination to function as a (flowing) system. The coherence of this system endures alongside energies and factions that fly out from it and disturb it from within. And, most important for my purposes here, the elements of this assemblage, while they include humans and their constructions, also include some very active and powerful nonhumans: electrons, trees, wind, electromagnetic fields. (Bennett 2005: 446)

Jane Bennett, in her article 'The Agency of Assemblages and the North American Blackout' (2005), traces the threads – emerging from and connecting

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to the assemblage of the electrical power grid – as a way to discuss the distributed, composite nature of agency. In contrast to Gary Downey *et al.*'s (1995) suggestion above, that human agency is becoming increasingly connected to agents of all sorts, Bennett suggests: 'There never was a time when human agency was anything other than an interfolding network of humanity and non-humanity. What is perhaps different today is that the higher degree of infrastructural and technological complexity has rendered this harder to deny' (Bennett 2005: 463).

In *Pandora's Hope* (1999), Bruno Latour imagines composite agency and the blurring of subject/object, human/non-human distinctions happening as a process of symmetrical translation: 'You are different with a gun in your hand; the gun is different with you holding it. You are another subject because you hold the gun; the gun is another object because it has entered into a relationship with you' (Latour 1999: 179). But with a gun in your hand, what happens to responsibility and causality when agency is granted to objects, things and technologies (if we can even do the granting)? Bennett writes that a 'distributive notion of agency does interfere with the project of blaming, but it does not thereby abandon the project of identifying […] the sources of harmful effects' (Bennett 2005: 463). Additionally, Latour's actor-network theory 'is analytically radical in part because it treads on a set of ethical, epistemological and ontological toes […] it does not celebrate the idea that there is a difference in kind between people on the one hand, and objects on the other' (Law 1992). These are the types of unresolved issues that might make academics uneasy about applying the framework of an assemblage. Despite this, Downey *et al.* insist that 'ignoring the agencies of technologies drastically limits any anthropological inquiries into the contemporary human condition' (Downey *et al.* 1995: 267).

Anthropology is uniquely suited, as Wilson and Peterson point out, to consider closely materiality and social networks. Anthropology's 'methodologies enable the investigation of cross-cultural, multileveled, and multisided phenomena; emerging constructions of individual and collective identity; and the culturally embedded nature of emerging communicative and social practices' (Wilson and Peterson 2002: 450). Anthropology is valuable because it insists on – and continually inserts – the dimension of the social, emphasising the connection between everyday realities and larger social and political contexts. More than a nexus or knot, Gilles Deleuze would argue an assemblage is rhizomic. Ethnography, then will allow us to map out these structures, to trace how assemblages operate in the everyday, to follow their routes, as well as explore the issue of power in these potentially non-hierarchical threads.

Of course, many methodological questions remain: What kinds of 'things' does a particular assemblage consist of? How does one demarcate the boundaries of an assemblage anyway? How does one avoid becoming 'overwhelmed by the number of [possible] actants […] and the speed at which [they] seem […] to be moving through their networks' (Rachel 1994: 810)? And as Downey *et al.* question in their article on cyborg anthropology: 'How are we to write, for example, without using human-centered language' (Downey *et al.* 1995: 267)? If it is already difficult to avoid the binaries of online/offline and real/virtual – lacking a worthwhile, successful vocabulary

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to replace these terms, even while we acknowledge their severe limitations – how do we, in practice, move beyond subject/object and human/non-human dichotomies to an understanding of agency as truly distributive?

Like Bennett's analysis of the blackout – an assemblage of shifting, pulling strings – I look to discover what materialises in one concrete technological moment. Rubble jumping – an activity that merges users with hardware, software and code – is an assemblage made of diverse materials and actors: softmod tutorials, 'Jump Tactics' mock questions and answers, physics engines, developers, programming code, hardware specifications, the 'Halo' jump community, machinima, Internet distribution sites for gamer videos. Tracing this assemblage will allow me to move beyond Virilio's fears: to counter that technology and humans neither displace nor replace each other, rather together they enact, embody and produce our shared social realities.

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