Interactive Journeys: Making Room to Move in the Cultural Territories of Interactivity

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ABSTRACT

This paper explores the aesthetics and politics of popular cultural computer imagery in games, television and film. The author aims to map a ground for criticism of computer graphics and interactive works—by excavating cultural meanings underlying the dominant aesthetics in these images and asking what they do for their producers and users. Do the metallic bodies armor the user/producer for the fear (delight) of a machine world, producing fear (delight) in the process? Is morphing a technique to evade, or explore, the identity crisis precipitated by awareness of cultural difference? What desires produce and are produced by the gravity-less perspective and movement of three-dimensional animation? The author's theoretical project explores how popular cultural computer aesthetics and techniques express and (re)produce subjectivity in postmodern culture. These ideas are examined through everyday aesthetic experiences, representational practices and techniques, and the accompanying changes in perception.

This is a story of journeys into interactivity—the story of what happened when a theorist and a visual artist journeyed into the terrain of interactive computer works. Or rather, this paper starts where that story ends. I want to begin by first navigating through some imaginary interactive journeys into the popular cultural interface, in order to focus on theoretical issues of aesthetics, politics and subjectivity. (I use the term "popular cultural interface" to refer to the computer interface at work in popular culture—particularly the computer-generated graphics, imagery and design in popular cultural artifacts from games to television to films.) In the second half of the paper, we will travel along some of the different interactive paths constructed by scientists, engineers and educators. At the crossroads of these interactive paths and those of popular culture lay the starting point of our own interactive project.

My broad aim in this paper is to map the ground for a criticism of computer imagery and techniques in popular game and educational/informational interactive works. To do so I will also need to venture into the broader territory of television and film computer graphics in order to excavate the cultural meanings underlying the dominant aesthetics of these images and interactive works and to ask what they do for their producers and users. My interest in these cultural terrains lies at the intersection of a theoretical project on computer culture and a practical project involving work with a visual artist on an informational interactive computer work. My theoretical project concerns how popular cultural computer aesthetics and techniques express and (re)produce subjectivity in postmodern culture—how they texture the ways in which technology operates as a "fundamental constraint in the production of subjectivity" [1]. These ideas are experienced and produced through everyday aesthetic experiences, representational practices and techniques and the accompanying changes in perception [2]. My political concern is how these ideas relate to different versions and subversions of computer culture, particularly across a spectrum of gender, age, ethnic and racial diversity.

Journeys into the Popular Cultural Interface

The first question, before we set out on our journey into the interface of popular interactivity and computer graphics, will be what to wear.

Dressed in Metal

Our first journey sees us wearing rather trendy outfits—the bright and shiny metallic look that is virtually *de rigeur* evening wear for the high-end popular cultural interface. This look fits a number of different bodies and suits us up for certain generally costly navigational paths on the small screen of television and the big screen of the cinema.

So, there we are at the interface, wearing our metal outfits, perhaps weighed down by clichés, perhaps ready for quick and strategic movement. As a landscape, the terrain of popular cultural computer imagery that one can survey and traverse while wearing a metal outfit can be like a desert, not a very rich ground for new life to spring from. But like the desert, the metallic landscape might also be beautiful and alluring, perhaps more complex and rich in the flesh than in its arid metaphor.

Navigating timescapes in our metallic wear, we may be reminded of another moment in the past. We may experience today as what science fiction in the past told us today would look like. The metallic look here risks being so overcoded as yesterday's future that it loses its fantasy edge. It is as if computers are stuck in a time warp where they have to look like what science fiction promised and where they are "destining their own future and past," according to cultural archeologist Albert Liu [3]. He traces a consistent genealogy from the chrome of the 1930s to the late 1960s Silver Surfer (a Marvel comics superhero with a silver metalloid body) to the high-tech future of post-technological beings. This genealogy follows the tracks of the people who invented rendering and computer imaging—people who came out of the whole aesthetic of science fiction and comics. These graphics producers' own science-fiction aesthetic became embedded in the "possibilities of the programs" [4]. What holds computer aesthetics in this time warp is not only the aesthetics of their pro-

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ducers, shaped in some measure by a certain male aesthetic, but also capitalism. The old "tried-and-true" is what is likely to sell, it is believed, resulting in an economically irrational refusal to see how much of a market is lost by keeping those limitations.

Chrome is a particular sort of metal that can color the timescape as well as the landscape in this journey to the interface. William Gibson, for instance, chrome-colored many of the metallic images in his book *Burning Chrome*. And in one of his stories, "The Gernsback Continuum," in which his science-fiction desert is colored with crystal and metal, art deco and science-fiction imagery merge [5]. If chrome reflects the future of the past (as in art deco) then perhaps when one wears it, the interface is colored by a retro feeling of safe familiarity, seductive with a promise of some fascinating future. And does this retro feeling, a typical postmodern perception and experience, work like its referent—art deco—to override cultural differences to the point of loss of visibility? [6]

The desert of metallic timewarp gains its science-fiction reflective surface not just from the aesthetics of science fiction and comics but also from high design. Chrome is a metal that reflects—one sees everything except the thing itself. Chrome is a metal that was used to cover surfaces during its heyday in the era of industrial design, when mechanical things emphasized surfaces and exteriors by hiding and suggesting. As Allucquere Roseanne Stone has suggested, the 1930s' modern culture hid the "guts and intestines and smells and tastes and workings of things . . . paying attention to the surface and metaphorizing the insides"—thus making/acknowledging them as both desirable and frightening and, increasingly, creatures of the imagination [7].

Chrome's reflective surface intensified and represented the modern move to an aesthetics of surface and skin. Chrome metallic images in computer graphics continue this lineage. Not surprisingly, one of the first computer-animated shorts was "Chromosaurus." Indeed, there is an etymological connection between chrome and skin, as Albert Liu has traced [8]. When we wear our metal outfits, do they feel like a second skin? A skin that enables movement (of a particular sort) or a skin that inhibits breathing or . . . ? Are we perceiving a deadening reflection and repetition of metal images all around us and suffering sensory deprivation without other colors and textures? Or are we excited by the glitter and glitz? A moment of interface is laden with historical determinations and readings, yet it is still open, perhaps, to political/cultural contestation.

Beam Me Up, Morph Me Over

In this journey into the interface, the material that once held the promise of the future, a promising future, has become threatening [9]. A different, particularly filmic disordering by speed and motion characterizes the very latest in high-end metallic looks—a very different outfit than the armored representations often associated with metal beings. The metallic look in films is modelled on the smooth metalloid body of the Metalmorph. ("Metalmorph" is Albert Liu's generic term for boneless, liquid, metalloid beings.) Its metal is worn on the inside and can bring *Terminator 1000* delusions or desires. According to Albert Liu, this new generation *Terminator*, the prototype model morphing villain in the popular James Cameron film *Terminator 2* (1991), exhibits the ultimate phallic boneless rigidity, a body without organs—perfectly suited to the flat-surfaced computer-graphic terrain [10].

But the Metalmorph is also particularly slippery, flexible, flowing and mobile—well-suited for traveling. ot only a metal being, but also a liquid metal being, a border creature of liquid/solid form, like the alien pseudopod in the underwater science-fiction film *The Abyss*, (James Cameron, 1989), where its rendering program was first used. The pseudopod's rendering program achieved a breakthrough in computer simulation:

> Rendering . . . since it is capable of simulating a holographic realism unattainable in sculpture—by creating the Metalmorph, returns the human figure to a prototypical, subhuman facelessness, its unidealized anonymity reinforced by realism. . . . T-1000's liquidity incarnates the anticlassical possibility of Dionysian sculpture. Accordingly, the Metalmorph marked a moment not in the plastic arts but in the plasmatic (as in *plasmatikos*, "molding") arts [11].

The Metalmorph renders a move away not only from the classical but also the modern representation of sculpture—in its monumental form, which was so appropriate to the bourgeois ideal of solidity. This postmodern Metalmorph is marked by its movement and speed as well as its formlessness. And the Metalmorph is not only a metallic being but also a morphing being that changes form and shape and takes on, or flows into, other shapes. And with a multibillion-dollar film budget, one can morph more exciting things than with our more economical home version.

Morphing—is it a body technique to evade (explore) the identity crisis precipitated by awareness of cultural difference in the postmodern West? It is illuminating to track the major territorial invasions of morphing in order to excavate its meanings. It is a currently and increasingly popular technique in film and music videos and in advertising. Frequently its beginning and endpoints play around with racial, gender and, even, species difference. One may want to read this play as erasing or highlighting differences, homogenizing or exposing the tenuousness of a type of identity that made sense in the mechanical age of modern capitalism but no longer does in the postmodern age of information. Is it a technique driven by the desire to *be* "other," not just travel to other worlds? Is this a fantastic disruption of "reality" (leaving one with abject queasiness) or an erasure of the significance of difference by tampering with the signs of difference?

It depends in part on one's location in time, space, place or discourse, as the producer or reader of the morph. Morphing could be read, via Marjorie Garber, like cross-dressing, as the creation of a "third sex" and as a sign of the "anxieties of binarity," the "constructedness" of gender and the crisis of cultural categories [12]. From this view, morphing allows the taking on of different personas, allowing one to present oneself as a spectacle, transform oneself or be multimorphous, unbound by notions of the essential—typical of postmodern sensibilities and subjectivity. Thus morphing, like cross-dressing, allows for lots of mobility, irrespective of certain codes of race or gender [13]. Mobility, so basic a feature of computer culture, now moves beyond space and time to identity and persona.

However, from another viewpoint, both cross-dressing and morphing often fail as playful interceptions of the mainstream. In particular, playing with the boundaries of gender has been more difficult for women to benefit from than men. A look at Lucasfilms's multiple users game *Habitat*, for instance, reveals that at one level the cross-dressing and morph-like possibilities are wide open—body parts are interchangeable, one can

"re-spray" one's color, one can change one's sex. And one will find lots of men cross-dressing as women [14]. But at the level of the graphics, the design of the imagery and the bodies is not particularly transgressive or diverse—it remains classically anglo, cute and "shapely." And while morphing may proliferate moments of boundary crossings on the plane of information and representation, the extent of their disruption of general cultural norms and pleasures is unclear.

In this critical light, one might read morphing techniques as a computer-culture version of cosmetic surgery or body building—as something that fails to disrupt or to dissolve structures [15]. For example, some of the most stunning versions of morphing involve two of U.S. popular culture's most exposed and fascinating examples of body building and cosmetic surgery—Arnold Schwarzenegger and Michael Jackson. Schwarzenegger, who built his own body, was paid well to be seen traveling around the interface with a morph (in the film *Terminator 2*), and was even apparently known to try it himself by having his color changed in a magazine image. Michael Jackson had what I remember as some of the earliest, most impressive examples of morphing across race and species in one of his music videos.

All this raises a political challenge facing us at each moment in the interface: to analyze what is going on culturally and politically with morphing, to trace the boundary destabilizations of its mobility and question whether they will end in restabilizations.

Speeding in Time, Floating in Space?

In this crossing, the issue is not just what one wears but how one moves. Does the metal outfit only shape one's body in a streamlined modernist way where form hides function—or does it also change function, enabling certain new movements? Does the flat iconic surface of the various screens on which computer graphics occur produce a desire for movements that create the illusion of depth?

We will find that in our metal outfits we are well-suited for gravity-free three-dimensional (3D) movement, so familiar in the computer graphics of television and film. Backwards and forwards through space, alongside those rendered metallic logos for television stations, the movements allow one to giddily float free and disrupt one's point of view, disturbing the staid position of classical perspective. But perhaps a movement can re-anchor one in a reality that has not changed—the reality of corporations that present "dazzling" ads. According to Judith Barry and Margaret Morse:

> When logos appear mysteriously on the screen, they seem to pass through our bodies on their way to our field of vision; when they swoop or tumble across the screen in elaborate trajectories, their controlled movements suggest not objects given momentum by some other force, but subjects with their own motive power. In this sense a logo can be thought of not only as the proper name of a station, but as a supernarrator that conveys us through various modes of discourse [16]

Judith Barry, following the path of Margaret Morse, tracks 3D computer graphics as they alter the place of the viewer and therefore subjectivity. While the continuous movement of metalloid figures locates the viewer deep inside space, in several places and planes at once, it is not only movement but also speed that gives them their meaning:

> Speed causes us to lose control, we give ourselves over to its exhilarating [sic] effects. It seems as though we are participating. . . . [I]n this universe of motion control to look is to be caught, not by an image but by something more powerful which delivers you to where it wants you to go [17].

The terrain we are pulled into here by speed and motion is one of a new sort of perspective, different from traditional cinematic space, which was a "believable, inhabitable representation" centered on "monocularly-based systems of perspective"—a space with a center at which the viewer is located and subjectivity ordered [18].

As we drive into the interface we may find ourselves navigating a fine line along a very repetitive road. Repetitive images can, however, play the soothing function of giving one something to hold onto in postmodern culture, where things disappear so quickly that they leave a gaping emptiness [19]. It is no surprise then that computer games, in which speed is crucial, are generally incredibly repetitive in their narratives and imagery.

What drives the movement and the drunken ecstasy of speed, which allows one to leave one's centered and controlled self behind—is it just the engine of capitalism and commodification? As we cross again into the interface, we can explore what drives speed.

The Pleasures and Compulsions of Swimming, Gliding and Surfing through the Interface

To think about the pleasures and compulsions of the interface in the computer graphics of popular culture's games, television and film, let us make four final crossings into the interface with four theorists, whom I asked to dress and go on this imaginary journey in a way that suited their sense of the interface.

The first crossing is with cultural archeologist Albert Liu, who chose scuba gear for his crossing into the interface. Scuba gear suggests and allows the crossing of media, which is how he imagines a crossing into the interface: a "submerging of the human body in another medium . . . a way to gain access to another . . . unnatural, inhuman experience . . . a human/inhuman fusion" [20]. Liu sees it as culturally significant that one chooses to experience these other realities via a machine, rather than, say, through drugs, meditation, reading or any of the other many possible ways in. That is not to ignore that these other methods may also be technological—but here technology takes a particular form, includes particular techniques and aesthetics, and shapes one's crossing into this landscape of other realities in particular ways [21].

For the second crossing, cultural critic Celeste Olalquiaga is wardrobe consultant. She is located in New York, a city where urban movement is a crucial concern outside the interface and fuels a desire to cross into it. We cross into the interface with her gliding on rollerblades. The roller-bladed styles on the streets are an image that is protective, fluid and robotic, reflecting the look on video-game monitors, appropriate to speed and violence. It is a look that allows one to glide in and out of the streets and the interface and realities in a merging or surfing-like manner [22], which recalls again the Silver Surfer and the resonance of computer games resembling comics in their look and significance to urban youth styles. This is a moment of interface between the city and the machine.

For the third crossing, on the other side of the continent, the guide is Katherine Hayles, a theorist at the boundary of science and literature, dressed in an iridescent body suit. Living in Los Angeles, hypersensitive to the pervasive traffic,

Hayles crosses into the interface driven by an impatience with materiality, the desire to achieve infinite mobility and the exhilaration of speed. It is "a movement from materiality into information," a crossing that short-circuits the cognitive machinery by appealing more in a kinaesthetic sense. Being held up by traffic is certainly something one can escape in the cars at the video arcades. There one drives a car as fast as one wishes, crashing painlessly. Sometimes, the crashing is as exhilarating as the speed. The more adept, or those who get their thrills without spills, strive to improve technique and move ever faster in pursuit of their goals. And with the perfected techniques of computer games and video arcades, one's sensory channels are reconfigured [23].

And this brings us to the fourth crossing with cultural historian Klaus Theweleit. Clothing-free, he focuses on the sensory and the way one develops a whole new set of perceptions as one plays video games. Generations of youth follow generations of computers, differing in the way they perceive and react to/interact with images, movements and depth. In the timescape and landscape of computer games, the kinaesthetic sense of one's phenomenal body keeps up with that of the computer—the younger one is, the faster one sees and moves. For the generation that has grown up in the information age, the perception of time and the techniques with which they operate at the interface are very different from those who came later to computers. They move differently and at a different pace. Their aesthetic and kinaesthetic senses are being (re)shaped by computer culture [24].

After these four crossings we are perhaps ready to dive deeper into the way that desires, along with the senses, are being reconfigured at the interface—which takes us further into the question of driving. What drives one to cross into the interface? Sometimes it is the desire to enter another reality or extend or lose one's reality—perhaps even to have a radical experience and to test the limits of experience and desire. Thi desire may be to be in another time, space, place or medium with the intent of losing one's own particular perspective in time and space. As one moves from one's world through the screen, one becomes fluid and immaterial, no longer bound by the rules of the world. The move into the interface "is a movement from materiality into information . . . things exist in informational form [at the interface] where doors open that never could open in material form" [25]. Is this what makes doors such popular images on the interactive interface?

Via the machine, we are incredibly absorbed at the interface: we can supersede our symbolic faculties—senses are stimulated in ways that "confuse or obviate the brain." The whole design of computer games, for instance, allows one

> to assume a purely passive or automatic position with respect to technology, to allow it to access the senses without symbolic mediation, without going through the sign systems which have governed the production of meaning in our culture, namely language. . . . You enter [the interface] will-lessly, involuntarily, inconspicuously [26].

How this operates for the interactive interface of Sega computer/video games was described by one 14-year-old girl as an escape from "boredom, your mother, using your brain":

> it takes over your mind and you just get hooked on it til you've finished it. . . . It's an imaginary place where you can just relax and your mind goes free. . . . Your mind gets loose and stuff [27].

Are these games "fantasies" in the subversive way that Rosemary Jackson discusses?

> A fantastic text tells of an indomitable desire, a longing for that which does not yet exist, or which has not been allowed to exist, the unheard of, the unseen, the imaginary, as opposed to what already exists and is permitted as "really" visible [28].

Fig. 1. An image from the interactive computer work "Go For It" designed by Maria Miranda using MacroMind Director and produced by Norie Neumark, 1994. (Photo courtesy of Maria Miranda) The image demonstrates the attempt to generate computer graphics that speak to the aesthetics of a particular audience and add some of the pleasure and energy of a popular culture interface to an educational/informational interactive work.

Games are certainly fun, an escape, addictive even, but whether they are subversive fantasy or not depends in part on who plays and how, as well as what they play. Perhaps, just as with fantasy literature, computer games' subversive function resides in their structure rather than (only) their themes and content [29]. How computer games play with fantasy is determined at the graphic and technique level more than, or as much as, the narrative. When the narratives are located in "normally" violent, racist, sexist, romantic or realist territories, it may be only their disorienting speed and their low-resolution graphics that save them from performing a normalizing cultural function. These low-level "abject" bitmapped graphics may loosen the grip of "reality" on meaning and provide some room for the imaginations in the well-worn narrative and aesthetic grooves. The less intelligible it is, the more we can project fantasies and desire onto it. As David Humphrey suggests:

> A low-resolution image like a badly taken photograph, or an image produced after many generations of cheap copying, has the capacity to solicit the viewer's participation in a production of its sense. That degree of filling-in-the-details required to "recognize" or "define" the low-resolution image draws the viewer closer to the realm of memory and association . . . these vague images create an increased susceptibility to the unintended or subjective, exercised by the peculiarities of the maker and viewer. . . . Low resolution . . . translates as languid irresolution. The dumb simplicity of the dissolving gestures registers a low-intensity resolve to simply mark the surface without the burden of representation [30].

Journeys at the Crossroads of Art, Science, Education and Popular Culture

In conventional journeys to the heart of the machine with scientists, engineers and educators, one aims for the dead center of reality, bypassing the imagination as much as possible. No time for cross-dressing in this journey—"what you see is what you get." The drive seems to be to bypass the senses and plug the "brain" directly into databases or texts. Functionality is the starting point on this journey, navigational dexterity around hierarchically organized space is the priority. Scientists and engineers are generally more interested in playing around under the hood of the vehicle than giving it a new chrome finish. Their relation to the machine's insides follows the paradigm of science—constructing it as something to be conquered and controlled, and expressing their own power and subjectivity in these "useful" actions [31]. The cleaner and simpler the interface looks, the better, because it is less likely to bedazzle the user away from his or her main aim of following the well-laid navigational paths as quickly and efficiently as possible.

If an educator guides us on these journeys, our usual path can often be much the same as if we traveled with a scientist or engineer. So long as they can track our movements and we reach the proper destination, they are satisfied. And what does tracking as a technique of relating to the user do to the producer and the user? Although tracking has an element much like the commercial and government surveillance uses of computer, it is dressed up for this journey in the educational guise of "for your own good."

Of course there are engineers, scientists and educators whose perceptions exceed the boundaries of the knowledge system they work within, enabling them to see the significance of the graphic imagery interface. Still, this is not normal practice and many of the educational and informational interactive interfaces reveal the low level of awareness of the significance of aesthetics. Lack of concern with the graphics, music and speed factors tell teenage users that they are there for an educational rather than entertaining ride—which brings me to the question of how different it would be to travel to an interface where diverse young people can operate differently than in the usual educational or popular cultural mode, though with some of the pleasures and benefits of both.

An artist's approach to computer aesthetics makes room for possibilities to engage visual and aural pleasures and imagination and to disrupt "reality" at the educational/informational interface. How to do this is tricky because the techniques are not necessarily the same as those an artist can use when she is on her own turf. Issues such as these animated my interactive project with visual artist Maria Miranda. We worked in the context of an educational institution (University of Technology, Sydney) to produce an informational interactive work designed particularly for teenage girls from non-English–speaking and Aboriginal backgrounds. Our discussions with the girls raised a number of issues regarding how to interact differently with young people whose diverse aesthetics, pleasures, consciousnesses and bodies have been to a certain extent colonized and normalized by too narrow a repetition of dominant computer images and practices. It also brought up questions of how to work within the educational paradigms that focus not on the pleasure and subjectivity of the student but on the end product of knowledge/data to be accessed. Our political aesthetic strategy was to create a "real" world familiar/strange enough to excite curiosity, pleasure and engagement. We constructed paths that suited the desire for the "game" factor of surprise and challenge. The information was designed to fit the aesthetically pleasurable interface. The look was a lush, cartoony, non-"realist" world inhabited by culturally diverse bodies (Fig. 1). A "real" world (domestic and exterior) was animated expressively and fancifully, and an informational territory was infiltrated with the critical, "inconsistent" edge of the "art factor." When funding is limited and engineers, scientists and educators must be kept happy, the ability to transgress "realism" and speak to the aesthetic sensibilities of a culturally diverse audience of 15-year-old girls is a happy end and beginning of the story of these interactive journeys.

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