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# INTERNAL+/-EXTERNAL TERRAINS:

A Meditation on the  
Productive Skein of Electracy

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# INTERNAL+/-EXTERNAL TERRAINS

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I dedicate this work to my daughter, Kit McMurtry who was born in the middle of producing it, but who will be both a participant in, and object of, some of its ideas for many years to come.

# ABSTRACT

*Internal+/-External Terrains* is a meditation on the nature of electronic creativity, primarily from a production point of view. It seeks to arbitrate and synthesise a range of skills, attributes and ideas that might constitute the field of electronic aesthetics. It does this from the perspective of electronic artists, and the socio/economic/cultural system they increasingly serve.

The aesthetics of electronic production, as looked at through the framework of electracy, serves as a model through which to locate some specific shifts in both self-making, and capitalism, in both their Post-Fordist, and globalising manifestations. *Internal+/-External Terrains* is a meditation on the re-conceptualisation going on in electronic meaning-making, as it is currently happening at the interfaces of the psyche, the politico-cultural domain, and in the techno-aesthetic apparatus of its production.

Through the compilation of a possible program in electracy (of its various aesthetic components as used in production), along with a brief outline of the electronic artist, *Internal+/-External Terrains* situates both, as role-model and epicentre, of an increasingly accepted mode of abstraction: **Radial-Logic®**. And it is this omnidirectional form of abstraction currently lighting the cyber-cohering logic of an already arrived future.

# DISCLAIMER

This thesis has not previously been submitted for a degree or diploma at any university. To the best of my knowledge and belief, it contains no material previously published or written by another person except where due reference is made in the thesis itself.

Signed: \_\_\_\_\_

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# PROLEGOMENA

## My (Love) Story

In the initial speculative preparations for this thesis I fell in “love”. Her voice, her body, her smell, all chimerically insinuated me in the most emotionally intense kinds of ways: she was sitting next to me in my car as I drove along a highway; she was bushwalking with me along the trail of a national park; she watered the garden while I did the extensions to our bedroom; we sat together over dinner talking passionately about love, life, politics, the spirit ... I dreamt of waking up next to her and kissing an exposed shoulder blade. In every scenario I could imagine she was there— body and soul; she populated every element of my being, the never-ending and seemingly infinite construction of self. Consciously, I thought I was starting to accept a singularly unified fate with the *imago* of the woman of my dreams.

This delusional state called to mind Roland Barthes’ reflection on the fluid, but occasionally fixed relations among the questions of production, the erotic and the romantic:

... it is not the *erotic* but *erotization* which is a positive value. Erotization is a production of the erotic: light, diffuse, mercurial; which circulates without coagulating; a multiple and mobile flirtation links the subject to what passes, pretends to cling, then lets go for something else (and then, sometimes, this variable landscape is severed, sliced through by a sudden immobility: love.)<sup>1</sup>

This 'erotization' can arise out of more than just a love-object, as in 'my (love) story' above. As Gregory Ulmer speculates in his articulation of Mystory, a concept he sees as a key component of the production of electronic knowledge, and more broadly he refers to as electracy, virtually anything can form the object of an eroticising fixation.<sup>2</sup> In other words, desire is at the heart of the "i"story, and thus of aesthetic production itself.

For Gregory Ulmer himself this fixation is, variously, the film star Gary Cooper, Jacques Derrida and continental philosophy, Miles City (Ulmer's home-town), the unconscious, even electro-discourse itself. Ulmer also makes a similar claim for Albert Einstein, for whom both the reality and memory of a compass given to him by his father as a boy is an object that later helped him to realise the Theory of Relativity.<sup>3</sup> Desire can never be exclusively romantic, nor simply a longing for another body, it can fixate on any object: abstract or physical.

Mystory, as a primary mythos of self, propels every discourse fuelling production encoding, and not just electronic production either. Both as psychic content and corporeal structuring, it is embedded in every single choice made in the electronic production environment. Mystoriography, that personal suitcase of myths, legends, stories, lies, texts, images, sounds, smells etc., is a fen-land of subjective wisdom and ignorance from which

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<sup>1</sup> Roland Barthes (1977), *Roland Barthes by Roland Barthes*, trans. by Richard Howard, Hill & Wang, New York, p. 62. [Italics in the original].

<sup>2</sup> For a more extensive treatment on the use of 'Mystory' in electracy see, Gregory Ulmer (1989), *Teletheory: Grammatology in the Age of Video*, Routledge, New York, pp. 82-112.

<sup>3</sup> *ibid.*, pp. 38-39.



worldly things get dreamt up, and subsequently produced and disseminated. This made-up world can range from an omelette to a theoretical system, from a cosmology to a joke.

‘My (love) story’, though, has a sequel, or more accurately, it is a realisation endlessly re/cycling itself through all discourses on electronic production. This re/cycling encompasses the simple idea that electro-logic foregrounds the malleable element of knowledge formation at the expense of the more fixed and immobile elements of oral and literate forms. The vacillating story of self/subjectivity, and not the treatise or the novel, is a more pertinent production model in mystoriography.

The power of ‘falling in love’ to immobilise the self-making apparatus made me thankful it only happens on rare occasions. However, once my onto-logically rollicking self re-emerged, I realised this re/cycling was under the control of my unconscious, and that it was this amorphous part of me that had taken control and surreptitiously produced this ‘immobility’ in ‘my imagined (love) story’. It gradually dawned on me I had fallen in love with this woman’s ‘image’ — the woman at the centre of my immobilising fantasy had an uncanny resemblance to Julia Roberts, a Hollywood movie-star whose Cinderella-like-status permeates the fe/male psyche with the illusion of symmetrical beauty. I did not know the Julia-Roberts-look-alike personally, I had no idea of her specific character. For various reasons she remained at a social distance. In my psyche at least, I had just been to a Julia-Roberts-Look-a-Like-Contest, much like the ones inspired by Jemma, one of the ***Big Brother*** evictees in the first Australian series, a phenomenon whose success is especially connected to electracy.

I had not even made any special trips to the cinema to see any of Roberts’ films; naturally enough, I had consumed a number of them broadcast on television, or borrowed from the video library, usually justified on professional grounds. Strangely, ***Pretty Woman*** and ***Notting Hill***, just to mention two narratives in which Roberts starred, had not even registered with me in any consciously powerful way. I had, unconsciously of course, thoroughly consumed Roberts’ screen persona and had re-produced it, desired it, pined after it, without even realising.

All round, a worrying development, but one fully in line with Sigmund Freud’s ideas on the largely unstructured relations of interaction between the unconscious, the

preconscious, and consciousness.<sup>4</sup> The Julia-Roberts-Look-a-Like-Episode was a deep-seated longing, one re/produced largely via electronic means. And there can be little doubt this unstructured congress between various elements of both the cognitive and representational apparatuses is a significant contributor to electracy's continuing global expansion.

The Julia Roberts upheaval also brought to mind Umberto Eco's resonating motto on the 'postmodern attitude'. Once again my thinking refracted, reshaped, and splintered again. This time, though, I was more clearly able to sense the reciprocal nature of a whole variety of communicative practices, in all their polysemic and organic grandeur. Here is the quote in full:

I think of the postmodern attitude as that of a man who loves a very cultivated woman and knows he cannot say to her, "I love you madly," because he knows that she knows (and that she knows that he knows) that these words have already been written by Barbara Cartland. Still, there is a solution. He can say, "As Barbara Cartland would put it, I love you madly." At this point, having avoided false innocence, having said clearly that it is no longer possible to speak innocently, he will nevertheless have said what he wanted to say to the woman: that he loves her, but he loves her in an age of lost innocence. If the woman goes along with this, she will have received a declaration of love all the same. Neither of the two speakers will feel innocent, both will have accepted the challenge of the past, of the already said, which cannot be eliminated; both will consciously and with pleasure play the game of irony....But both will have succeeded, once again, in *speaking of love*.<sup>5</sup>

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<sup>4</sup> Sigmund Freud (1954), 'The Unconscious' [1915], in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. 14, James Strachey, Anna Freud, Alix Strachey & Allan Tyson (eds.), Hogarth Press and the Institute of Psycho-Analysis, London, pp. 190-195. For an updated take on the mediating function of the unconscious see, Paul Smith (1988), *Discerning the Subject*, University of Minnesota Press, Minneapolis, pp. 70-82.

<sup>5</sup> Umberto Eco (1985), 'Postmodernism, Irony, the Enjoyable', in *Reflections on the Name of the Rose*, trans. by William Weaver, Secker & Warburg, London, pp. 67-68. [My emphasis].

The stereotyped banality of the Julia-Roberts-Look-Alike upheaval<sup>6</sup> threw a vast number of seemingly disconnected questions into my cognitive orbit: How did my own consumption of electronic data, in my psychic capacity as a raw screen for the representational impulse, make me as a subject? What made this raw data settle into either conscious and/or unconscious modes in my psychic archive? In what ways did this subjective process of incorporating electronic data contribute to collective knowledge formations?

Concomitantly (I was, at the time, a producer of various kinds of electronic works), how was I making myself in the act of electronic production? In effect, what was the productive act — in the enormous aesthetic variety of its representational strategies — telling me about myself, about the future development of knowledge production in the world? How does an electronic epistemology speak of/for/through my consciousness, my unconscious, my pre-conscious? Is the ontological (being), epistemological (knowledge), axiological (ethics), demarcation useful in this context? What specific forms of beauty are being perpetrated in the electronic domain?

This unruly herd of questions at least proved conclusively that the solipsism at the heart of an ontologically intense state like “love” was directly connected to already established epistemological forms — Eco’s ‘the already said’. This was so regardless of whether that knowledge was configured in an oral, literate, or an electronic form.

Further research revealed the loose connection I had made between love and aesthetic production already had a long history in the Western epistemological tradition. Several good literate instances of this history are some of Bradley Pearson’s interior monologues in Iris Murdoch’s 1973 novel *The Black Prince*, itself a re-telling of the Hamlet myth. One example will be sufficient:

The deep causes of the universe, the stars, the distant galaxies, the  
ultimate particles of matter, had fashioned these two things, my love and

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<sup>6</sup> At times a certain disdain is bestowed on stereotypes. They are, however, a good example of the *economy of the commonplace*. On the use of stereotypes in electronic logic see, Gregory L. Ulmer (1994), *Heuretics: The Logic of Invention*, John Hopkins University Press, New York, pp. 58-60. Also, on the question of the use of personal anecdotes in theoretical discourse see Meaghan Morris (1990), ‘Banality in Cultural Studies’, in Patricia Mellencamp (ed.), *Logics of Television: Essays in Cultural Criticism*, Indiana University Press, Bloomington, pp. 14-15. I herein duplicate Morris’s usage of the anecdote as ‘referential’, that is, as a way to frame the argument and to experientially ground and give it abstract flight.

my art, as aspects of what was ultimately one and the same. They were,  
I *knew*, from the same source.<sup>7</sup>

A more recent electronic version is the American sit-com *Mad About You*; the central male character is a documentary maker who frequently talks to himself, recently married to the love of his life, and around whom the stories revolve. *Seinfeld* (both the show and central character) could be mentioned in the same breath. A digi-cam, sitting on top of a computer with its lens focused on the knowledge producer, is another manifestation of this idea. And even if an artist was not a central character in the particular narrative under consideration, the point remains that in electro-logic the aesthetic sensibility (whether oral, literate or electronic in origin), had started to permeate discourses of all kinds. This sensibility was now a component of common wisdom, it had achieved a critical mass.

## A Core Question?

However, like a lot of people at the turn of the millennium, Eco's absent Other: the future, both intrigued and troubled me. And it was this *feeling* of an absent future that underpinned a way of synthesising the previously mentioned raft of subsidiary questions. At long last it was the epistemological void of the future that enabled me to come up with the following interrogatory epicentre for this thesis:

*How is the production and consumption of electronic information contributing  
to the cognitive, social and cultural construction of the body-politic?*

This self-absorption, this narcissism, had chameleoned into a professional fixation, and as in most significant periods of transition, it was also an ideal departure point.<sup>8</sup> I could now

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<sup>7</sup> Iris Murdoch (1973), *The Black Prince*, Chatto & Windus, London, p. 172. [Italics in the original]. All these citations, knowingly or not, are indebted to Plato's dialogue on love and knowledge as set up between Socrates and Phaedrus. See Plato's (1973), *Phaedrus and the VII and VIII Letters*, trans. by Walter Hamilton, Penguin Classics, Harmondsworth.

proceed more rigorously because the originary position of *felt meaning* was a similar process to how an electronic work of art was conceived.<sup>9</sup> You get a *feeling* or a *longing* on a particular topic, you then set out to *prove* it through the un/conscious manipulation of its aesthetic data. *Internal+/-External Terrains* is simultaneously an act of self-examination and a politico-cultural investigation into the possible uses electronic creativity is put in a globalised world.<sup>10</sup> Like the Julia-Roberts-Look-a-Like episode, we may not even be aware of some of these uses, either individually or collectively.

Equally, the production and consumption of this electronic seepage — wrought by the pandemonic ambulation of pixels, data, information, knowledge and wisdom through subjects — is now the primary site for the struggle over meaning, for subjects themselves, for culture, the globalising process, and for the future.<sup>11</sup> Whether acknowledged, denied, or argued with, the pixel, data, information, knowledge and wisdom continuum, and the “i”story, are at the epicentre of a large number of aesthetic discourses. To varying degrees this has been, and continues to be so in oral and literate spheres, but it is electro-logic that foregrounds this truism most profoundly.

What the “i”story sometimes avoids, through this emphasis on self-actualisation via aesthetic production, is any articulation of the collective processes of the social, political or cultural domains. However, even in the Post-Fordist schemata, the conceptual category of the ‘collective’ has been partly replaced by some notion of the ‘self’, ‘subjectivity’, or in some cases, the ‘body’. This is done via the ironic process of ‘flexible specialization’, where work-processes require a whole set of variable skills while retaining an essential speciality.

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8 Narcissism is a continuing theme in the production and consumption of electronic information. For an analysis of this theme in the video arena see, Rosalind Krauss (1976), ‘Video: The Aesthetics of Narcissism’, in *October*, #1, (Spring), pp. 51-64.

9 This arises out of Derrick de Kerckhove’s (1995), remark that: ‘Felt meaning precedes logic and may be much more comprehensive than thought.’ See his, ‘Notes for an Epistemology of Television’, in Stefano Marzano (ed.), *Television at the Crossroads*, Academy Editions, London, p. 54.

10 The positive/negative configuration is here used to indicate an attraction and repulsion, a recto and verso, and an established current between, internal states of being — the primary site of the ontological, and objectively situated modes of knowledge — the epistemic. In the context under discussion, it is the electronic that is the carrier of these interacting signals, these attractions and repulsions. The word *terrain* is used to emphasis the spatial, and spatialising, quality of this communicative correspondence.

It is ‘flexible specialization’ that allows the whole “I” *belonging* to me (the mind, body and soul of Terrence Maybury), to become the object of capitalism’s affections via its *will-to-produce*. If a strong conception of the collective arose in the production line mentality of the Fordist era, alternatively, there is little doubt electronic production is part of the Post-Fordist agenda. In the process, my singular and repetitive contribution to the collective production line has morphed into my variable contribution to the small-scale team so prevalent in electronic production. Simply put: more highly individuated processes (the psy-disciplines themselves are part of this process) have been slowly adding themselves onto, and sometimes replacing, various forms of mass consumption and production.<sup>12</sup>

My own background in electronic production also raised the sociological question of the ‘researcher as insider’.<sup>13</sup> In summary, this means the person conducting the research has been, or is involved in the object of study in more than just abstract or theoretical ways. With a background in video production, I consider myself an insider in the field of electronic aesthetics — the primary object of this study. The issue is one of more than mere positioning. It specifically locates *production practice* as the source of the theoretical insights contained herein. It is also the dividing line between an understanding configured in abstract or pedagogic terms and one relying on the working process itself as the chief source of insight.

In the production of electronic knowledge, understanding can arise out of the aesthetic impulse in concert with a range of other impulses, theoretical abstraction among them. These various impulses, including the social, the technological, the political and the cultural, are all helically entwined, like the image of the ‘möbius strip’ Elizabeth Grosz uses to underpin the content of *Volatile Bodies*.<sup>14</sup> This multitudinous entanglement supersedes the ‘inside/outside’ categorisation with a notion of the praxis researcher: that is, a person who is *across, in, and through* various logics, accepting, challenging, ducting, and sometimes ignoring, their limits and availability. This is a zone in which action and abstraction work

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<sup>11</sup> For an outline of the data, information, knowledge continuum see, Jim Davis & Michael Stack (1992), ‘Knowledge in Production’, in *Race and Class*, vol. 34, #3, p. 2. I have added ‘pixel’ as a way of, firstly, establishing the more microscopic level apparent in electronic information, and secondly ‘wisdom’, to indicate more highly worked over forms of knowledge: artistic, religious, political, theoretical, philosophical, for example.

<sup>12</sup> For an analysis of the connections between the ‘psy’ disciplines and liberal-democratic governmentality see, Nikolas Rose (1998), *Inventing Our Selves: Psychology, Power, and Personhood*, Cambridge University Press, Cambridge, especially chapter 4: ‘Expertise and the *techné* of Psychology’, pp. 81-100.

<sup>13</sup> Bill Ryan (1991), *Making Capital from Culture: The Corporate Form of Capitalist Cultural Production*, Walter de Gruyter, Berlin, pp. 14-15.

<sup>14</sup> Elizabeth Grosz (1994), *Volatile Bodies: Towards a Corporeal Feminism*, Allen & Unwin, Sydney. In particular, see pp. xii, xiii, 36, 116, 160, 189, 209-210.

collectively, and/or erratically, and/or singularly, but always with a *desired* object in mind: The Finished Work.

## One Possible Structure Among Many

The foregoing suggested the following structure for the thesis: Level 2 attempts to clarify the confusing, and historically and technologically contingent idea of the ‘electronic’. This cannot be done without some reference to the continuum known as ‘the oral, the literate and the electronic’, as suggested by Walter J. Ong and Marshall McLuhan, among others. While this clarification of the electronic is told from a ‘production encoding’ point of view, it is impossible to analyse this phenomenon without reference to pedagogic concerns. In every way though, concepts like ‘electronic’, ‘knowledge’, ‘production’, and ‘technology’ are all involved in an interminable play of shadow and light, none are fixed in themselves or as corroborating entities. Largely because of this interminable sense of play in electronic culture I have taken a cue from computer games in using their organisational combination of ‘level’ and ‘number’ to indicate electronic information is a particular admixture of chronological development and spatialisation.

A number of critics have labelled this tagging of ‘electronic’ and ‘technology’ as technological determinism.<sup>15</sup> Whether the technology is labelled ‘electronic’, ‘digital’, ‘analogue’, or be it ‘satellite’ or ‘terrestrial cable’, the point remains that the discovery, invention, the commercialisation (or otherwise), the saturation and subsequent ebbing of a given technology, is a crucial component in the boom and bust cycle of capitalism’s productive energy.<sup>16</sup> The transformation of literacy into electracy is as dependent on both the materiality and ideology of electronic technology as the invention of the printing press was to the transformation of oracy into literacy. This is not a privileging of technology, but recognition of it as an essential ingredient in the production of knowledge of any kind.

The point is not so much technologically, economically, or even culturally deterministic. The term ‘electronic’ best represents an effervescent frenzy that is a feature of

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<sup>15</sup> The arguments against the technological determinist position are widespread and have some relevance. For a discussion on this issue see, Sean Cubitt (1991), *Timeshift: On Video Culture*, Routledge, London, p. 21ff. These points will be taken up further in Level 2.

<sup>16</sup> Gerhard Mensch (1979), *Stalemate in Technology: Innovations Overcome the Depression*, Ballinger Publishing Company, Cambridge. This relationship between the cycles of technological change and capitalism’s economic cycle of boom and bust is also known as the Kondratieff Cycle. On the later point, see Peter Hall (1981), ‘The Geography of the Fifth Kondratieff Cycle’, in *New Society*, 26 March, pp. 535-537.

both aesthetic production and capitalism itself. After a thorough going critique of both the postmodern and cultural turn in theory, Terry Eagleton ably captures this nervous energy of capitalism in the following way:

Capitalism is the most pluralist order history has ever known, restlessly transgressing boundaries and pitching diverse life-forms together. If it has need of the “unified subject” in the classroom or the law-court, it has little enough time for it in the media or the market-place.<sup>17</sup>

Level 3 outlines some of the significant features of the methodological process pertinent to my analysis of electronic aesthetics. To a significant degree, postmodernism itself serves as a cover note for a range of methodological systems. In looking back over Modernism, Postmodernism inevitably reflects some anxiety about the transformation of the past into the future: to what methodological system do we turn in order to find wisdom’s certainty? On a simple chronological level, Postmodernism is appropriate because its appearance in the 20<sup>th</sup> century is roughly equivalent to the electronic domain’s emergence as a form of knowledge. And finally, if the literate tradition turned to the remote and the abstract, Postmodernism takes us into the contextual and immediate. Electracy follows the latter, rather than the former attributes.

Largely because aesthetics and subjectivity are so entwined, I see it as necessary to look briefly in Level 4 at some of the debates surrounding subjectivity as it relates to electronic aesthetics.<sup>18</sup> This is important because it troubled me that in moments of uncertainty writing a literate thesis would take me further away from the object of my *desire*: electronic aesthetics. I pinned up on my noticeboard Thomas Nagel’s remark that:

If the subjective character of experience is fully comprehensible only from one point of view, then any shift to greater objectivity — that is, less attachment to a specific view-point — does not take us nearer to the real nature of the phenomenon: it takes us farther away from it.<sup>19</sup>

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<sup>17</sup> Terry Eagleton (1994), ‘Discourse and Discos: Theory in the Space between Culture and Capitalism’, in *Times Literary Supplement*, July 15, p. 4.

<sup>18</sup> For an historical account of this relationship between aesthetics and subjectivity see, Andrew Bowie (1990), *Aesthetics and Subjectivity: From Kant to Nietzsche*, Manchester University Press, Manchester.

<sup>19</sup> Thomas Nagel (1979), ‘What Is It Like To Be a Bat?’, in *Mortal Questions*, Cambridge University Press, Cambridge, p. 174.



Video, as significant media form within the electronic domain, epitomises the impermanence and the transitory nature of the never-finished-business of life, of a constant *becoming through knowledge* itself, rather than as a static and singular object, an allegedly truthful and stable knowledge determining subjectivity. This is subjectivity as diversity, and less as an essentialist singularity. As an electronic producer, I was also *subject to* the aesthetics I employed in a particular work. Eventually, Nagel's quote was dispensed with.

Aesthetic production combines the contradictory urges of wish-fulfilment, psychoanalytic exorcism, narcissism and a fear of decay. As a production itself, ***Internal+/- External Terrains*** is a computer-mediated form of 'electronic remembering and forgetting'. Production per se and mortality, then, are on intimate terms. And entropy remains the most collectivised of activities: it happens to everyone and everything.

This suggestive relation between the electronic production of knowledge and entropy is fuelled by Sean Cubitt's remark that:

Video's relation to the fading of the subject, to death and to silence,  
makes it closer than any other media to the state of the secular, unstable  
and atomised subject of contemporary capital.<sup>20</sup>

There is little doubt in my own mind that this multiple subject is, at least in part, demarcated by both the *multitudinous* and *affective* quality of electronic information, and, all of these elements taken together, form a significant source for the uneven oscillations of the psyche. Electronic information, both within a particular story and across its many forms, is both brain-food and heartbeat of the postmodern subject.

Level 5 looks in closer detail at the particular codes available for manipulation by electronic artists. It is here a fuller philosophical *and* pragmatic program of electracry is posited. I have tried to avoid the use of a term like 'grammar' because of its overt association with the literate tradition. While this section is the central part of the ***Internal+/- External Terrains*** debate, it remains unfinished. Certainly, electronic production protocols

like lighting, editing, directing, producing, are obvious inclusions in an electracy program, but the incorporation of communicative techniques more allied to oral (recorded speech, for instance) and literate traditions (writing, both typographic and chirographic) will be more hotly debated. Even more provocative is this Level's implication that media communications should take over the pedagogic reins in the wider dissemination of knowledge about electracy.

Tangentially, I see computer programming as an essential component of electracy's stable of aesthetic techniques but because I have very little skill or knowledge in the area I have not addressed the idea in detail. What I am hoping for though is to intensify debate on any possible inclusions and exclusions in an electracy program. Primarily, the objective of this thesis is to turn the debate on the acquisition of electronic knowledge from focusing on it through a literate lens, to one looking at it from the point of view of electracy. As far as I can tell this debate is not yet widely disseminated enough, if at all. The choice of what to include/exclude in an electracy program should remain an open, rather than a closed paradigm though.

The 'Forking Conclusions' are brought to light in Level 6. In keeping with the spirit of an electracy program, the conclusions are splayed. This is because if *Internal+/-External Terrains* were merely to outline a policy on what might or might not be included in an electracy production pedagogy it would lose sight of the enormous wider consequences of such a possible shift. In many ways this shift to electracy has partly occurred in popular cultural terms, and has already had an impact on established forms of aesthetic production like painting, literature, and the cinema. It seems to me that, in the long term, the very biological foundations of the body will also change when electracy is taken up in a more wholesale way. On this latter point, we can thank Stelarc's work for illuminating us on the relationship of electracy to the body's physical malleability, not just its cognitive malleability.

If this uneven and largely unheralded shift to electracy is not formalised though, a range of differing arenas in the human and natural worlds will continue to be bounced and shaken around in a situation of incomprehensible mutation. There is certainly a need for a

more advanced understanding of how electronic knowledge is produced and consumed. *Internal+/-External Terrains* will hopefully make a small contribution to this fuller understanding.

Finally, the question: *what is electronic media?* might usefully serve as a relay into this larger discussion. Electronic media, and its content, are now not merely the broadcast industries, be they radio, video, pay-TV, or the print media. Electronic media is active in a wide range of institutional, social and private settings. This macro-incorporation not only includes the above categories, but also the three broad historical delineations of communication already referred to as the 'oral, literate and the electronic'. Furthermore, these categories must sit alongside the industrial/institutional integration we are now experiencing in the computers, telecommunications, and broadcast sectors of culture and the economy. Also included in electronic media are elements of publishing, journalism, teaching/learning institutions, sections of the arts and cultural industries, even parliament and pornography are involved. The list could go on, but the point remains electronic media is a significant presence in a broad range of categories.

The striking image of an African tribeswoman holding a Sony camcorder on her shoulder is a profound indication electronic media are influential in a multitude of specific locations and ideologies. This is even happening in outer space if the images sent back from the Jupiter Probe are annexed to this argument. A whole host of systems of information production, dissemination and consumption can now be termed a form or branch of 'electronic media', an entity in which both structure and content can be integrated, and/or interchangeable with each other, an idea recently hyped again as 'convergence'.<sup>21</sup> In this postulated move to electracy (both painful and euphoric), it will be necessary to devise a more conceptually coherent framework for these widely disparate entities.

It is these convergences and multiplicities of the electronic sphere which foreground its speculative and meditative capacities. In its medium specific quality of moving across knowledge formations, the electronic pixel↔wisdom continuum makes conclusions more

conjectural than absolute. *Internal-/+External Terrains*, then, is in the nature of a meditation on the role played by electronic aesthetics in the formation of self and society, and the way these meandering impulses help and hinder an extension of both ourselves and capitalism as a mode of human socio-economic, cultural and psycho-physiological structuring.

The conclusions will be tentative, uncertain, in part because the story combines the ‘already said’ (and the way this mires our present in information), with the necessary sifting required for a move into the future. This makes electronic knowledge production dynamic on a second-by-second, minute-by-minute, and day-to-day basis, not just on a longer-term paradigmatic or generational frame. It does so while simultaneously incorporating spatiality into our deliberations.

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21 Productivity Commission (2000), *Broadcasting*, Report no. 11, AusInfo, Canberra, pp. 105-123. This report also recognises the multi-layered nature of the term ‘convergence’. I will take this point up further on.

LEVEL 2 ... ↘

**PRODUCTION**

**ENCODING:**

**ORACY ...**

**LITERACY ...**

**ELECTRACY...**

Without work we were a simple tyranny and  
fit for pity.<sup>22</sup>

Rodney Hall

## **Electro-Production**

You sometimes find in theoretical/academic circles an unspoken fear of the actual labour of cultural production, both in its attitude to the personnel involved

and the actual work processes themselves. Of course, the academy is as prone to anxious impulses as we all are. It may well be that the Realpolitik of the academy is now to turn out knowledge workers, a development that can sometimes come at the expense of a 'liberal education'. John T. Caldwell makes note of these phenomena when he says that:

Although students of cultural studies now flock to the audience and to the domestic living room in order to better explain television, few consider the practitioners or the makers of what is transmitted over the TV a source of productive analysis.<sup>23</sup>

A similar observation could be said of practitioners in the fields of radio, film, music, computer programming, the WWW, even the telecommunications industry. Certainly, the genre of the star interview, or the specialised knowledge of trade magazines, are important sources of information about cultural production. However, it is not the same as an in-depth analysis of the un/conscious knowledge built into the production process (and/or the resultant distributed commodities), by social, psychological, cultural, political or economic imperatives. Inversely, it could also be said that the various production protocols inculcate the program-makers who use them.

This is especially important given that electronic technology companies, over the last fifty years or so, have increasingly manufactured electronic equipment more easily operated by novices and amateurs, as well as semi-professionals. One of Sony's inaugural company policies, formulated in 1946, was the 'rapid application of the superior research results of universities and research institutes to commercial products for the daily lives of the public.'<sup>24</sup> And from Sony we have seen the emergence of electronic machines like the Playstation, the DAT machine, the Hi-8 camera, the Walkman, computers, and a range of still digital cameras.

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<sup>22</sup> Rodney Hall (1988), *Captivity Captive*, McPhee Gribble, Melbourne, p. 116.

<sup>23</sup> John T. Caldwell (2000), 'Modes of Production: The Televisual Apparatus', in Robert Stam & Toby Miller (eds.), *Film and Theory: An Anthology*, Blackwell Publishers, Massachusetts, p. 126.

Clearly, electronic technology (and its increasing micro-miniaturisation), has been taken up with a vengeance in amateur, consumer, semi-professional, and even highly professionalised arenas. *Australia's Funniest Home-Video Show*, the Rodney King video, *Candid Camera*, amongst other cultural products and practices, would not be possible without this increasingly popular participation in the electronic production of cultural commodities.

And, as Caldwell illustrates in another context, there is a significant band of aesthete/theorists who can be reckoned with, at least in televisual terms.<sup>25</sup> To Caldwell's list of Jean-Luc Godard, Chris Marker, Trinh T. Minh-ha et. al. could be added Robert Bresson, John Cage, Jean-Louis Comolli, Peter Greenaway, Stelarc, Glenn Gould, along with a number of artists working on the WWW, as just a small number of aes-theorists who come to mind when dealing with the theory/production divide. The point of emphasis here is that electracy is increasingly a way of theorising in and through images, sounds, texts and bodies; *and* it integrates the fields of abstract reason, technology and everyday life, utilising a wide range of symbolic codes. The widening influence of electracy makes the abstraction/production divide an increasingly unhelpful one.

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<sup>24</sup> Quoted in Ben Keen (1987), "'Play it Again, Sony': The Double Life of Home Video Technology', in *Science as Culture*, #1, p. 22.

<sup>25</sup> John Thornton Caldwell (1995), *Televisuality: Style, Crisis, Authority in American Television*, Rutgers University Press; New Brunswick, New Jersey, pp. 352ff.

## Beginnings, Middles, Endings

It was in the *literature search* for this thesis where I unearthed an ambiguity over the meaning-making skills most necessary to electronic production. This strangeness in the debate arose consciously with the reading, and re-reading, of Kathleen Tyner's book, *Literacy in a Digital World*.<sup>26</sup> There was an *absence* in the debate on literacy, and this absence created the above-mentioned ambiguity. Of course, ambiguity is a flame to the despair of no-knowledge, so it was necessary to unearth this conceptual dissension.

*Literacy in a Digital World* makes all the right noises: it discusses technology, Walter Ong, media literacy, primary/secondary/tertiary schooling, the *Phaedrus*, psychoanalysis, storytelling, networks, aesthetics, even numerical literacy and multiliteracies, along with a host of other highly appropriate subject matter vis-à-vis the production of electronic knowledge. On one reading, it is without a doubt, a highly illuminating overview of its object of study. There is, however, another reading of *Literacy in a Digital World*, and it is of a more obscure hue.

This more clouded element of *Literacy in a Digital World* makes it a superior representative of the largely under-theorised control-complex and authoritarian impulse in the production of all knowledge. The chorus of voices on *literacy* drowns out the whispering on *electracy*. It should not be forgotten every communicative episode is also an act of oppression: someone else is not speaking. If the PR sector encourages a more seraphical view of the production of knowledge, it comes at the expense of its sometimes tyrannical underbelly.



This contrast is not too overblown. *Literacy in a Digital World* foregrounds the implied assumption that all teaching, all learning, in all forms, in all spaces, is literate. That is, all knowledge is mediated via either typographic or chirographic words on a page. The continued use of the term *literacy*, along with allied ideas such as ‘meta-literacy’,<sup>27</sup> ‘digital literacy’,<sup>28</sup> and ‘multiliteracies’,<sup>29</sup> only serve to indicate a certain anxiety over the shifting conceptual frames of what might or might not be classified as literate. These and other debates seem to indicate not only a crisis in literacy, on its acquisition, but also on a basic building-block question: what is literacy?

This question is an important one. This overshadowing of the debate on electracy is a strange oversight, given that Tyner admits in the introduction that, ‘I am an itinerant teacher, reluctant writer, and sometimes media producer.’<sup>30</sup> This assumption, it seemed to me, is the indication of a strand of informational authoritarianism proliferating in some institutional bases and individual contexts. This authoritarianism was clearly trying to contain and corral the intensifying global flows of electronic information. Here was an abstract policing-force, actively gate-keeping over what might be produced, or what is permissible or disallowable in the production of knowledge, and in the forms that knowledge might take.

Ironically, it also seemed to be a peculiarly electronic way to present information: that is, the sifting, the analysis and categorisation, along with the presentation of all phenomena through the gaze of one’s personal biases, the latter

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<sup>26</sup> Kathleen Tyner (1998), *Literacy in a Digital World: Teaching and Learning in the Age of Information*, Lawrence Erlbaum Associates; Mahwah, New Jersey; & London.

<sup>27</sup> Philippa Bright, Tony Schirato & Susan Yell (2000), ‘Communication Meta-Literacies and Tertiary Graduates’, in *Australian Journal of Communication*, vol. 27, #2, pp. 99-110.

<sup>28</sup> Paul Gilster (1997), *Digital Literacy*, John Wiley & Sons, New York.

<sup>29</sup> New London Group (1996), ‘A Pedagogy of Multiliteracies: Designing Social Futures’, in *Harvard Educational Review*, vol. 66, #1, (Spring), pp. 60-92. For a further take on this understanding of literacy see, Sven Birkerts (1994), *The Gutenberg Elegies: The Fate of Reading in an Electronic Age*, Faber & Faber, Boston.

<sup>30</sup> Kathleen Tyner (1998), *Literacy in a Digital World*, p. 1.

point making all knowledge production laden with emotional causation. With this *will-to-power* I was once again back in the visceral register of the electronic ...

## The-Electro-Made-Self

The already mentioned Julia Roberts episode, and its accompanying questions, also resonated with my reading in the history of communication. This episode confirmed Armand Mattelart's view that at least by the 1750s, when Denis Diderot and Jean d'Alembert published their *Encyclopédie*, communication was both polysemic, in that it 'spoke the language of several "sciences, arts, and craft"', and corporeally centred, in that it was 'already dependent on organic references in order to be understood.'<sup>31</sup> Using a range of concepts like networks, flows, space, among others, Mattelart goes on to persuasively argue that this 'polysemic organicism' is a central feature of modern electronic media.

Indeed, there is now a 'Spike' in electronic communication technologies.<sup>32</sup> This intensification has occurred with the advent of the WWW, pay-TV, inexpensive Global Positioning Systems, medical imaging, computing, digital cameras, Walkmans, surveillance systems, mobile phones, among others. This Spike is also accompanied by a surfeit of irony and metaphor, both of which ignite the body's capacity for excess in epistemological pleasure. From these developments we can now confidently say that both the *corporeal* and the *polysemic* are essential to a 21<sup>st</sup> century understanding of electronic production and consumption practices.

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<sup>31</sup> Armand Mattelart (1996), *The Invention of Communication*, trans. by Susan Emanuel, University of Minnesota Press, Minneapolis, p. xiii.

<sup>32</sup> I have lifted this term from Damien Broderick's (1997) book, *The Spike*, Reed Books, Melbourne, p. 2. Broderick uses the term to describe the period when the exponential curve of broad technological development coheres to the point 'we can confidently expect that some form of intelligence (human, silicon, or a blend of the two) will emerge at a posthuman level.' As silicon is a significant technical foundation of the electronic domain, this form of media has achieved its own spike in terms of a critical mass, along with contributing to these broader technological developments that Broderick makes reference to.

Another thing that can be confidently said about the enormous structural changes going in the communication field (and elsewhere) is that the multiplexed systems of meaning in electronic production and consumption have also reached a critical mass. In cultural use-value and politico/economic exchange-value, or *otherwise*, these technologies are now in common use, at least in the West. While the actual term *multiplex* is in use by cinema exhibitors, it is still a designation serving as a useful reminder that a multi-variant understanding of communication has always had a substantial part in the play of communicative interchange. This compound view of electronic message formation is not far removed from the multiple sense-making apparatuses of a whole range of art forms involved in aesthetic production, whether they are the plastic arts, literature, architecture or music.

## **Object: (Information) Science**

Equally unnerving was science's increasing interest in consciousness and subjectivity. If the electronic capability of a multiplicity in information production and dissemination was to have any validity it would also have to, if not fuse the deep divide between Science and Art, then at least make some connection between them. In historical terms, this divide has only consolidated itself in the last three to four hundred years (the Renaissance artist Leonardo Di Vinci was a good example of how Science and Art was not separated so easily in earlier epochs). It was a divide that has always seemed baffling. Electronic forms of knowledge could somehow question and connect this divide.

Being an avid reader of *New Scientist*, I eventually came across the following quote from Susan Blackmore, on the very subject of the humiliating<sup>33</sup> illusion of my 'Julia Roberts affair':

"I" am only one of the models in the system, a model of "self in the world" built largely by language. "I" am a self-image, a body image, a construct of a human being. This makes it perfectly obvious why all the rest of the system appears to be unconscious. It is unconscious to "me" but not to itself.<sup>34</sup>

With my connectionist impulse aroused, sweeping generic categories loomed large: Science, Art, Technology, Beauty, the Grotesque and, because I had consumed most of Roberts' films primarily in video and broadcast viewing situations rather than the cinema, the *electronic* distinction. In the disciplinary fields of mass communication, media, and/or information technology, it was the term *electronic* that seemed best able to equate with these large generic categories, particularly in relation to the subject, or subjectivity, or of notions of the body, and of aesthetics.

This was so because the pulsed nature of the body's own messaging apparatus — the nervous system, was a clear palimpsest to the vast global electronic machine put in place to disseminate information in the postmodern era. Whilst Roberts' work is primarily located in the cinema, it was electronic technology that guaranteed the wider distribution of her cultural products outside the 'cinematic apparatus'. After all, the cinema is largely a voluntary institution in terms of its attendance, while electro-commodities are not so easily avoided. Put

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<sup>33</sup> It seems to me humiliation, embarrassment, and basic instincts like money, sex and power, along with the romantic, the violent, etc. all form, in varying degrees, key ingredients in popular electronic narratives. Certainly they are not exclusive to this domain though.

<sup>34</sup> Susan Blackmore (1989), 'Consciousness: Science Tackles the Self', in *New Scientist*, 1 April, p. 40.

another way, electronic commodities permeate society to such an extent at least some contact with them is unavoidable.

As much as Roberts' tantalising beauty had immobilised me, in the era of electracy this "model", this "self in the world", was only *partly* built by language, and its literate infrastructure. The increasing importance of the electronic domain amplified not merely the linguistic, but a whole host of meaning systems: visual, auditory, colour, perspective, even mathematics, among others.

In primary literate cultures, 'a self in the world is built largely by language', as Blackmore says. However, in primary electronic cultures,<sup>35</sup> the range of representational systems referred to above are subordinated/integrated to the capacities and capabilities of the electronic apparatus — as machine, as an economic and cultural ideology, and as a significant means of cultural production. This is a crucial shift in the foundation of the production of knowledge.

This electronically re-configured foundation, then, is a generic conceptual category both large and small enough to meet the Grand Narratives of Science, Beauty, Truth, Male, Female, Race, Ethnicity, etc. on their own terms. The electronic was also a way in which these Grand Narratives, rather than being under a cloud of

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<sup>35</sup> Of course, what constitutes a primary electronic culture is open to debate. There may be no such a thing as a primary electronic culture as yet. Nonetheless, what can be said is there is definitely a move toward such a state becoming the dominant one in the future. On the notion of a primary oral culture, from which this idea of a primary electronic culture has evolved see, Walter J. Ong, (1988), *Orality and Literacy: The Technologizing of the Word*, Routledge, London, especially the section 'Post Typography: Electronics', pp. 135-138.

suspicion, or even dead, speak to and argue among themselves, as well as speak to and influence public opinion.<sup>36</sup> The electronic does not do away with Grand Narratives, or any useful episteme, it merely serves to reconstitute them electronically, or to use a specific electronic concept — it *repackages* them. By instituting a kind of tetrabyte-complexity, electracy allows for an interminable reconstitution of all information amenable to electronic structuration. Electracy, as a form of knowledge production, allows a greater communicational power to the fragments, vis-à-vis the whole.

In October 2000 the ABC screened an adaptation of *Madame Bovary*, a prime example of how just one example of the literary canon is repackaged as electronic information. Indeed, to take a cue from the character of Emma Bovary, the *electronic* is a global desiring machine: idealised through the theories of the Romantic tradition and its accompanying Grand Narratives. The undertow of this Romantic tradition is a wilful wantonness — both the actual literal and symbolic playing off of one body against another, all mingling with signs, and more signs. This is the pick-and-choose, cut-and-paste, on/off, 0/1 world of electro-logic, constituted at the subjective level.

Electro-logic then, as a mobile generic classification, is the materialisation of a productive mechanism that responds, in part, to the biological question: 'Is individual thought itself superorganismic, a collective phenomenon?'<sup>37</sup> The electronic domain offers us an intensification of psycho-political processes while simultaneously supplying a globally oriented means of its collective organisation, expression and, no doubt, exploitation. The electronic production of subjectivity '*globalizes singularity*', and pits the subject not so much against the family, the

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<sup>36</sup> This assertion is, of course, arises out of Jean-Francois Lyotard's famous argument that the postmodern period has destroyed the validity of the Grand Narrative, in particular its scientific versions. Rather, Grand Narratives have been decentralised into short grabs, sound-bites, pop songs, into pixels and bytes of information, allowing them to be idiosyncratically reassembled in the processes of both subject formation and production. See his (1984), *The Postmodern Condition: A Report on Knowledge*, trans. by Geoff Bennington and Brian Massumi, University of Minnesota Press, Minneapolis, pp. 31-32, 35-36.

nation, the state, a race, an ethnicity, or a gender, but more crucially, against every other individuating monad on the globe.<sup>38</sup> The market economy could not have planned this outcome any better.

Agnes Heller further clarifies this electronically institutionalised socio-political dynamic of the postmodern period in the following indirect way:

Our world is the space where we locate ourselves; it is our home. Being-in-a-world also means to share a home where one dwells. Yet, if the world of the happy person is entirely different from the world of the unhappy person, the expression “being-in-a-world” is unmasked as yet another formula of deception, for in fact, it is not *our* world that is confronted to *theirs*, but *my* world that is confronted to the world of every other single “I”. There are as many worlds as persons: a world is subjective.<sup>39</sup>

The very diversity of these thinkers: from the biologists Margulis and Sagan, through the Deluzian-disciple Massumi, to the traditional socialist Heller, first of all indicates the same theoretical problem can arise in a variety of ideological and methodological categories. Secondly, it indicates that the *global*/"I" configuration is possibly more important than the *global/local* systematisation. Maybe even more momentous than globalisation, it is the "I" to "I" configuration that electracy most profoundly promotes.

## The Globalising "I"

In what specific ways is this global "I" produced in electronic culture? The facial and auditory gyrations of actor Callista Lockheart in the television show *Ally*

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<sup>37</sup> Lynn Margulis & Dorion Sagan (1987), *Microcosmos: Four Billion Years of Evolution from Our Microbial Ancestors*, Allen & Unwin, London, p. 151.

<sup>38</sup> Brian Massumi (1993), 'Everywhere You Want to Be: Introduction to Fear', in Brian Massumi (ed.), *The Politics of Everyday Fear*, University of Minnesota Press, Minneapolis, p. 35. [Italics in the original].

*McBeal* are a significant factor in the popular success of that program. The gyrations can, in turn, symbolise stubbornness, sorrow, delight, scorn, seductiveness, ridicule ... Ally McBeal, the character, serves as an ensemble of caractereological traits to varying lengths determined by facial, corporeally delimited significations. The fact that the Lockhart/McBeal face is syndicated through a range of other media, from print, to TV talk-shows, and websites only serves to add fuel to the face's electronic fire.

*Ally McBeal*, then, is a fine example of how, at a simple iconic level, the human face and body, its pleasures and pains, has once again restated its power as a pictorial and auditory force in twenty-first century politics and culture. The Turin Shroud serves both as one iconic source and metaphor for the evangelistic importance of the human face in electronic media (think of news, drama, documentary, home-video, lifestyle programs, ads, the home-page ... ), the Gaze of the Human Face, in its Looked-At-Ness, and the multitude of ways it gazes back at us from electronic machines of various kinds.

This is both confirmation of, and a contradiction in, our subjectivities. At a morphic level, there are hundreds, thousands, millions, and now in global modes of electronic reproduction and distribution, billions like me. At every single and immediately local level, as well as within the globally disseminated representational spectra, they are different from me. The fact that concerns have been raised about the pencil thin structure of the McBeal/Lockheart body only serves to enhance the singularly intense corporeal epiphany electro-logic brings to the production of knowledge.

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<sup>39</sup> Agnes Heller (1992), 'World, Things, Life and Home', in *Thesis Eleven*, #33, p. 81. [Italics in the original].



This question remains central to the electronic apparatus: the linkages, spaces and differences, between the “I”, and/or the internal and external “Other”, are a paradox in which parts of ourselves are made, re-made, made-up, often by forces more powerful than the subject itself. Because of the very ubiquitousness of *The Face*, of its ever-present-ness, of its scream ‘This is me, there is you!’, we all are engaged in this dialectical cantering.<sup>40</sup> As the pixels and rasters peristaltically reveal, congeal and evaporate, so too do the multitude of Face/s on the monitor/globe. Electronic media galvanises faces and bodies with symbolic heat: materialising, politicising, enculturating, along with the economically fundamental imperative of the marketing and promotion of the “I” as the hyperbolised centre of discourse in global capitalism.

Various production protocols combine in electronic media to privilege this symbolisation; *close-up/mid-shot/wide-shot* are significant here as spatially orientated production signifiers with a direct relationship with the human face and body. This foregrounding of the Face, of a memorable character, is again exemplified in the production protocol of choosing ‘talent’: the casting of actors in fictional examples, and ‘real’ people in the case of documentary. The fact that the camera stands predominantly on a lens-to-eye trajectory, in a range of electronic program formats, makes us aware the body and electronic technology are on intimate/synergistic/opposing terms. An interim conclusion suggests that electronic media can produce a techno-aesthetic template onto which can be pixilated any face, any subjectivity, any body, in all their contexts, hybrid or otherwise. Every face, every body, is possible fodder to and from the electronic symbol mill.

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<sup>40</sup> *The Face* is the name of an influential magazine coming out of England in the 1980s/90s that usually carries the facial image of a well known pop icon on each of its covers.

If an orally-arbitrated Narcissus happened to look into the river to admire his reflection, that one copy may have been its limitation. When an electronically replicated and pluralised Narcissus looks and speaks into the lens of a camera, and its microphone, they see their own corporeal form duplicated in the psyches of the consumers of that particular production. Electronic media not only makes a selected number of Narcissus' move in space and time, it allows an almost limitless replication of them, with up to more than six billion possible psychic duplications available for rendering. Alphonso Lingis rings true in attempting to synthesise bodies, space and communication: '... human language has to be seen as arising out of the murmur of nature ...'<sup>41</sup> A materialist model of communicative action is a mimic of the physical universe.

## Electronic Ecology

The haunting phantom of nature (sometimes also referred to as the *environment*), still lurks about in the ambit of this electronically delineated global/singular dialectic. It is not surprising the rise of the environmental movement, as a popular revolution in consciousness, has coincided with the rise of

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<sup>41</sup> Alphonso Lingis (1994), 'The Murmur of the World', in *The Community of Those Who Have Nothing in Common*, Indiana University Press, Bloomington & Indianapolis, pp. x, 69-105.

electro-logic over the last one hundred years or so. The structuring of information in electro-discourses of various kinds has significantly amplified nature's beauty and terror, symbolic and literal.

Even in the arena of experimental music, this nostalgia for a re-consummation of humanity and nature through aesthetic production is enduring: 'Music is as close as I can come to a mountain, tree or river.'<sup>42</sup> The following understanding needs to be remembered though: the productive urge, in all its manifestations, is at once destructive of nature — electronic work processes, machines and products are both components in, and the result of, the forces of production — as well as an attempt to re-create the most 'perfect' condition of nature: an aesthetically integrated textual whole.<sup>43</sup> The hallucinogenic condition of wholeness implied by aesthetic production attempts to clone the myth that nature is an holistic, precisely oiled entity of almost divine proportions.

The variety of epistemes involved in electronic production are, in the totality of their influence over subjective meaning-making, a vain human attempt to aesthetically recreate a supra-natural state wherein the whole gamut of an interconnected nature constitutes a seamless discursive whole, and in utopias particularly, devoid of all ideological fissures. Pop music is possibly the pre-eminent populariser of electro-logic over the course of the last century and has done much to propagate this abstract seamlessness via its attachment to 'silly love songs'. But while music may indeed have arisen, in the long run, out of the chaotic sounds of nature, to construct a closed system out of nature's meanings seems at odds with electronic contextual, and technical heterogeneity.

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<sup>42</sup> Avante-garde musician Cecil Taylor (1993), quoted by advertising material in *Scorch*, #4, May, p. 7.

Electronic modes of production spike this vanity by finally transferring aesthetes' 'wholeness complex' from a supposed other-worldly deity (God or Nature, or Themselves), to both individual productions and the sum total of electronic productions, sometimes even to unfinished or merely imagined productions. In other words, the completed aesthetic product can sometimes stand in for Divine (Symbolic) Nature. This sometimes makes electronic productive and consumptive contexts primarily meta-representational — a zone of the interminable referencing of all knowledge systems, both as a process apart from, and a necessary adjunct to, some imagined form of truth-telling.

The most perfect landscapes (i.e. those spaces untroubled by human intervention), exist now only in the representational field, which means a virtualisation of all of nature. These 'mediascapes' are of the here and now.<sup>44</sup> The fact that Appadurai even uses a term like 'mediascapes', with its close metaphoric relationship with landscape, and thus nature itself, is indicative of how the cycles of nature are syncopated with the orbits of aesthetic production and vice-versa. The productive conflict set up between a nostalgia for some kind of continually re-constituted harmonious nature and the simulacra of current global electronic culture serves as a moral, political, cultural and metaphysical backdrop against

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<sup>43</sup> Compare this to Klaus Theweleit's (1987), remark that: 'Whenever a man begins to feel — and he feels a lot when he's furious—all else is destroyed.' In *Male Fantasies — Women, Floods, Bodies, History, Vol. 1*, Polity Press, Cambridge, p. 164. Theweleit's extended analysis of popular literate aesthetic production in Germany in the interwar years is also a good overview of the fascist impulse that resides in the *body* of aesthetic production generally. This discussion between gender, fascism, and aesthetics is far from over though.

<sup>44</sup> Cf. 'Mediascapes refer both to the distribution of the electronic capabilities to produce and disseminate information (newspapers, magazines, television stations and film production studios), which are now available to a growing number of private and public interests throughout the world, and to the images of the world created by these media.' In Arjun Appadurai (1990), 'Disjuncture and Difference in the Global Cultural Economy', in *Public Culture*, vol. 2, #2, (Spring), p. 9.

which electro-artists of all kinds work. As such, electronic modes of production are a primary force in the multifaceted debates centred on the nature/culture axis.<sup>45</sup>

Nature also provides the context in which the specific process of subjectivisation, of lived corporeality, is most thoroughly engaged. This is where not only phenomenology kicks in but also where the question of *place* is inserted into debates on the nature/culture question. As Manuel Castells notes, a significant feature of the environmental movement has been its '*emphasis on locality*.'<sup>46</sup> Combining this spatial specificity of the environmental movement with the emerging informational domain of electracy is a clue to the significance of these issues.

One of Bruno Latour's ideas gives us a further clue to this combination: '... ecology has nothing to do with taking account of nature, its own interests or goals, but that it is rather another way of *considering everything*.'<sup>47</sup> '*Considering everything*' could equally be another way of theorising both electracy and its accompanying codes of production encoding. This connection is brought home most eloquently in Sean Cubitt's phrase: 'electronic ecology'.<sup>48</sup> Wholly self-contained spheres, in ecological, psychological or informational terms, are no longer possible in an electronically mediated and globalised world. The domain of electracy even questions the lucidity of a sound, self-contained argument, and in this way frays conclusions rather than specifying and cohering them.

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<sup>45</sup> It is Manuel Castells in his (1997), *The Power of Identity*, Blackwell Publishers, Oxford, that has most clearly elaborated the connection between electronic media, subjectivity and the environment. See especially, 'The Greening of the Self: The Environmental Movement', pp. 110-133, for a condensation of how electronic information is crucial to both identity and environmental politics.

<sup>46</sup> *ibid.*, p. 123. [Italics in the original].

<sup>47</sup> Bruno Latour (1998), 'To Modernise or Ecologise? That is the Question', in Bruce Braun & Noel Castree (eds.), *Remaking Reality: Nature at the New Millenium*, trans. by Charis Cussins, Routledge, London, p. 235. [My emphasis].

<sup>48</sup> Sean Cubitt (1993), *Videography: Video Media as Art and Culture*, St. Martin's Press, New York, pp. 190-209.

While capitalism has tried to control nature through Fordist production practices, there is a return of a repressed nature in electronic production and consumption as a psychically situated 'realist' formation. Nature documentaries, distributed largely via electronic means, have figured prominently in this process. Ranging in quality from the work of the Leyland Brothers, through the Davids' Suzuki and Attenborough, to the Science Units of the BBC and the ABC, *represented nature* figures as a decisive surge in people meter registrations. In a range of other electronic narratives of a more traditional dramatic bent, nature will occur in a category like 'setting' or 'location' (I vividly remember the *F-Troop* compound, the various *No.96* apartments, the *Road Runner's* travels).

The electronic domain configures nature as an ontologically re-produced symbolic formation rather than an experientially incorporated reality. We are already accustomed to virtual travelling through the small Alaskan town of Cicely depicted in *Northern Exposure*, and its surrounding wilderness. Electronic forms of information specifically locate bodies in space, wherever they may be. And both a heterogeneously interconnected nature and electracy does not limit spatial knowledge to the visual.

Going back for a moment to a significant aural production, we could cite the virtualisation of Mars, and the Martian takeover of the globe, produced by Orson Welles in his *War of the Worlds*, and broadcast in 1938 over New York radio. As a consequence, electronic encoding not only deals with earthly times and spaces, but extraterrestrial ones like the universe, even the fictional spaces of heaven and hell. It is through these representational practices that electronic knowledge formations

'reinsert the question of space into critical social theory.'<sup>49</sup> This is not just the 'natural' spaces already referred to and depicted in a wide range of electronic media, but equally and more crucially for this meditation, it is also the work-spaces in which these representational practices are formulated, produced and from which they are disseminated.

## Electro-Technology

Within electronic modes of production, the technological is a primary contextualising force. More specifically, it is the work-space (or work-station in computer language) that makes the connection between the electronic domain and technology explicit. In the 1860s the Luddites produced their now famous war against the machine. Whilst they were popularly characterised as raging against the machine, it could be more accurately said the Luddites were against machines that displaced human workers from their jobs.

The lessons of the Luddite revolution are many and varied and need not detain us here.<sup>50</sup> However, a continuing legacy of the Luddite Revolution is the foregrounding of the intimate and ongoing relationship working people have with

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<sup>49</sup> The debates centred on this question are extensive. Two differing examples will suffice to give a flavour of its complexity: Edward W. Soja (1990), *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*, Verso, London; and Michel Foucault (1986), 'Other Spaces: The Principles of Heterotopia', in *Lotus International Journal*, vol. 48, #49, pp. 9-17.

<sup>50</sup> On this point see, Kirkpatrick Sale (1995), *Rebels Against the Future: The Luddites and Their War on the Industrial Revolution — Lessons for the Computer Age*, Addison-Wesley, Reading, Massachusetts, especially chapter 10: 'Lessons from the Luddites', pp. 261-279.

the machines in their workspaces, which are themselves increasingly encroaching on domestic spaces as well.<sup>51</sup>

Under electronic modes of production, this relationship encompasses contact with cameras, editing equipment, microphones, computers, scanners, mobile phones, VCRs, Playstations, along with a range of peripherals. This is not to forget that pen and paper are still in use, even tom-tom drums — a significant form of communication in oral cultures. And after Foucault's elaborations, it is now possible to view every component of the body, for instance the oral/musical/FX capabilities of the voice-box, as a 'technology of the self'.<sup>52</sup> A 'technology of the self' viewpoint would consider the body's sensate capacities as a means of productive interpretation and manipulation.

This is not just about the self-as-machine. This is actually about a keen testing, and a deep knowingness of the body's sensorium, its physiology, its brain-power, its imagination (among other things). This electro-logic is situated in the already mentioned idea Walter Ong and others categorise as the 'oral, the literate, and the electronic'. The computer represents the latest development in the electronic phase of communication history and it too pays homage to those earlier categories Ong refers to by incorporating into its apparatus a technically transformed equivalence of oral, literate, even numerate, forms of communication, among others. In history and aesthetic production, the structure and content of the past is a potent database for the present and the future. In electracy, the category of self, and of self-production, figures more prominently than that of communal knowledge production.

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<sup>51</sup> For a biting critique on telework's move into the home, see the discussion from the Dutch collective Bilwet Adilkno (1995), 'Electronic Loneliness', in *Mediamatic*, vol. 8, #2/3, pp. 1-4.

<sup>52</sup> Michel Foucault (1988), 'Technologies of the Self', in Luther H. Martin et. al. (eds.), *Technologies of the Self: A Seminar with Michel Foucault*, Tavistock Publications, London, pp. 16-49.



In the case of the computer, the *volume* of information made available by its technical capacities is one of the most significant features of its productive capacity. The computer is increasingly coming to challenge the camera, and before that the typewriter, as the dominant technology in the highly variable workplaces of electronic production. This is to say that the computer is becoming the axial point in production by dint of the fact that, being digital, it can transform any incoming message into readable bits and bytes. This constitutes an equivalent microminiaturisation in the content of electronic data, not just the technical apparatus through which that data becomes manipulable. And it is the mathematically configured field of Boolean logic underpinning the manipulation of zeros and ones in electronic environments that arises again and again in coming to grips with electracy. This is so symbolically and numerically at least.

To varying degrees, it is the computer that is the centralising technology across a broad range of production contexts. Although other technologies (both analog and digital) are still, and will remain, an essential feature of cultural production, it is the computer that looms large as the central synthesising agent/cy of electracy. While the literate domain might be limited to a certain number of words (in the English language for instance, there is generally a fixed number of words at its disposal at any given moment), the breakdown of data in electracy is characterised by an infinite array of bits and bytes.

For a concept like *data infinity* to operate, it needs the computer as a human prosthetic to make this traffic-in-data practically function. And in the long history of work related technologies, the computer's great ancestor is the loom; and in prehistory, the use of the flint in oral cultures. Every machine, every tool in the production of knowledge, is also a meaning-making machine in its own right.

As a counterpoint to Stuart Hall's influential essay 'Encoding, Decoding', where television is used as the medium of theoretical choice, electracy foregrounds a generic definition of the various media utilised in electronic production. A compound view of 'media specificity' is crucial to understanding electracy's multiple meaning-making capacities.<sup>53</sup> Put simply: computer, television, radio, electronic gaming, video, medical imaging, WWW, chat-lines, telephony, etc. share a considerable range of formal aesthetic properties which allow them to be grouped together for the purposes of both analysis *and* production. This is in congruence with the broad range of aesthetic choice available in electracy's productive phase.

However, and again taking a cue from Hall, the production phase of the communicative act is simultaneously a relatively autonomous arena in only abstract terms. Pragmatically, production is constantly intertwined in the other components of communication: '... circulation, distribution/consumption, reproduction.'<sup>54</sup> Electronic production practices can be carried across various media forms, although this should not imply that each form does not have specific attributes that make it unique.

All media most certainly do have unique attributes, but electracy, as a way of conceptualising electronic knowledge formation, crosses a vast number of borders in subjectivity, production and culture. Electric epistemology is not particular to just a small group of radio workers, for instance, and nor can it 'remain the property of an educated elite, as literate epistemologies have.'<sup>55</sup> Indeed, as a form of working knowledge, in some respects electracy requires little in the way of professional training or generational mentoring. If the conceptual frame of an electric epistemology is akin to electracy, in either

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<sup>53</sup> The study of 'media specificity' is a fascinating one, not only in the discussion of new media. On this subject see, Steven Maras & David Sutton (2000), 'Medium Specificity Revisited', in *Convergence: The Journal of Research into New Media Technologies*, vol. 6, #2, pp. 98-115.

<sup>54</sup> Stuart Hall (1993), 'Encoding, Decoding', in Simon During (ed.), *The Cultural Studies Reader*, Routledge, London, p. 91.

knowledge producing system it will be nearly impossible to clearly demarcate borders of any kind.

It is sometimes this lack of border definition that allows various forms of electracy to be seen as models of ideological indoctrination, or as morally or physically corrupting forces.<sup>56</sup> Conversely, it is often seen as a transcendently present post-modern tool *par excellence*. Various forms of electracy are sometimes praised and loathed because they can cause everything from grass roots democracy and access, to excessive violence, and the imbuing of 'bad' body images in various audiences (women and teenagers are foregrounded here). Electracy, as heterodox, lets a series of sensuous and over-abundant pixel↔wisdom continuums loose in the world.

This pigeonholing of electronic forms of knowledge into the sin-bin of discourse is generally aimed at media content and not at the various pieces of electronic technology that populate our home and work environments. In the more limited domain of electronic production, various communication technologies, as possible sources of social, political or religious ideology plugged directly into the psyche, become work-tools. Under the tutelage of the productive impulse, the function of media technologies as work-tools shifts from socio/cultural/political injection to that of a large scale, somatically located, eidetic re-memorising machines.

Electronic technologies, and their content, are simultaneously a tool of political surveillance (the classic **1984** interpretation), as well as a tool for re-

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<sup>55</sup> Raymond Gozzi Jr & W. Lance Haynes (1992), 'Electric Media and Electric Epistemology: Empathy at a Distance', in *Critical Studies in Mass Communication*, vol. 9, #3, (September), p. 224.

creating, even cloning, *bodily sense* with (the *Brave New World* interpretation). In the electronic production domain, these two scenarios can go hand in hand within the one specific action. Indeed, it is this ambiguously dialectical character of media technologies, that is, as tools of surveillance on the one hand, and as tools of voyeurism on the other, which constitute an essential element in their mass attraction.

Indeed, surveillance and voyeurism form an important nodal vortex in electro-logic, allowing in pragmatic terms, both a fixed subservience to and a conceptual mobility around, the dominating oppression of any hierarchical system.<sup>57</sup> When a subject sits at their computer they are in communion with both their screen and the digi-cam sitting on top of their computer, which seems to me as emblematic of this tension to both see and hear, and to be seen and heard.

This idea encapsulates and surpasses Chris Marker's idea of TV as a 'memory box'.<sup>58</sup> This is because electronic technologies, as used in the productive phase, allow for the continual re-memorisation, as well as the terminal assemblage and disassemblage of data, and thus a kind of fractal hybridisation of all the information electronic artists choose to put on tape, disk or memory card.

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<sup>56</sup> An example from the video gaming area is an unsigned article syndicated by AAP detailing the research of Dr Guan Koh, who looks at the medical consequences of playing interactive games (diabetes, RSI, fecal incontinence among them). It comes across as a medically justified form of fear-mongering, one which electro-discourses seem to attract and thrive on. See, AAP (2000), 'Joy Turns to Nintendinitis for Video Kids', in *The Sydney Morning Herald*, December 11, p. 8. An example from television is Sherrill Nixon's (2001), article 'TV's Helping Hand in Do-It-Yourself Accidents', in *The Sydney Morning Herald*, January 9, p. 1. This article details the statistical increase in household injuries caused by the popularity of lifestyle programs like *Burke's Backyard* which target home improvement, gardening etc., almost as a metaphor for self-improvement. Falls from ladders and injuries with power tools are mentioned in the article.

<sup>57</sup> For a good example of this tension in photography see, Grace Lau (1993), 'Confessions of a Complete Scopophilic', in Pamela Church Gibson & Roma Gibson (eds.), *Dirty Looks: Women, Pornography, Power*, BFI Publishing, London, pp. 192-206.

In domestic, social, and professional situations (parties, weddings, homecomings, football replays, documentary situations, etc) where I have been producing electronic work, there has nearly always been an instantaneous call from the gathering to 'show', on the nearest television monitor, that which has just been recorded. An hiatus in the proceedings of the 'real' event takes place while the hallucinatory power of the replayed audio-visual reality erupts in bouts of good-natured jousting, melancholy silence, or abject horror at the contents of that replay. This re-memorising, with its spatio-temporal singularity as a prime strength, is a significant contributor to the logic produced by electronic forms of knowledge.<sup>59</sup>

In this way, the electro-technologies and their content-carrying capacities, can be used as a sort of psychic barometer that engages in the processes of the experiential confirmation, and/or challenging, and even denial, of the real or imagined circumstances thus depicted. Further, it diffuses the borders between past, present and future whilst simultaneously refracting, through and across one another, epistemological, axiological and ontological modes of understanding. Electracy helps to actualise what Foucault calls 'the *individualization* of discourses'.<sup>60</sup> A partial explanation of this is that various forms of electracy collectively create the illusion of addressing each and every one of us in a personalised way. Electracy globalises a significantly expanded version of interpersonal communication.

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- <sup>58</sup> This comment about television is made by the unseen narrator in Chris Marker's (1982), poetically self-reflexive documentary *Sunless*, Argos Films, 110 mins., colour. Also, see the extensive Chris Marker World Wide Web site, compiled by Adrian Miles, at <<http://cs.art.rmit.edu.au/projects/media/marker/index.html>>. [Accessed 29/7/01].
- <sup>59</sup> The equivalent in broadcast situations might be the 'repeat'. With the advent of a plethora of electronic delivery systems this tendency will only intensify with similar content being repeated over various platforms.
- <sup>60</sup> Michel Foucault (1991), 'Politics and the Study of Discourse', in Graham Burchell, et. al. (eds.), *The Foucault Effect: Studies in Governmentality*, Harvester Wheatsheaf, London, p. 54. [Italics in the original].

At the dominant broadcast level of this symbolic condensation, audio-visual technologies ostensibly produce a 'planned flow'<sup>61</sup> — a concept that deters a subject from plateauing out on the level of some imagined harmonious, well-balanced, self-contained individual. A swirling and incessant flow (in both the technology and content of electronic media), all washing over us, through us, in us, on to others, and back to us through others, concurs with the ubiquity of electronic forms. Television and VCRs in the lounge room corner, radio stations, MUZAK, video cameras at weddings and every conceivable public event, PAs at the circus, office printers, the rapidly expanding role of computer communication within and between homes, public spaces, and workplaces. Electracy elevates communicational dynamism over that of its fixity.

The proliferation of this technological infrastructure for a variety of electronic modes of knowledge, coming as it does from corporate, individual and state sites, serves as an important reminder of the role of *techne* in all knowledge formations, not just the electronic. At the same time it serves as, variously and singularly, a triangulating point, a nodal constituent and an X-Factor in various binary divides: nature/culture, self/society, mind/body, reason/passion, science/art, among others.<sup>62</sup> As the eloquent Optus ad comically depicting Kramer, a character in *Seinfeld*, speaking into a mobile phone on a camel in the desert suggests, electracy, both in terms of technical infrastructure and content, connects up the globe with its impact.

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<sup>61</sup> 'This phenomenon, of planned flow, is then perhaps the defining characteristic of broadcasting, simultaneously as a technology and as a cultural form.' This idea of 'flow' continues on in narrowcast situations such as a home-video showings, along with re-flow, which is the re-configuring of all ready existing electronic, print and oral/aural material. See Raymond Williams (1974), *Television: Technology and Cultural Form*, Collins/Fontana, London, p. 86.

<sup>62</sup> Gregory Ulmer uses the X-factor as a possible point of convergence for a variety of entities. See his (1994), *Heuretics*, p. 90.

Within the mutually inculcating worlds of electronic media, subjectivity, and working life, there is little room for rigid articulations. Cognitive imbalance, seemingly a permanent state in electro-logic, occurs continually within the subject, within institutions, within knowledge formation itself. In the current mode of an almost incessant informational flow there can only be, at best, a momentary, a split-second balance. Most often, this is an idealised plateau on which a fugitive moment may be grabbed and then looked upon nostalgically from an analogue, and increasingly, a digitally flowing information world. Subjects, producing and consuming as singularities, or in groups small or large, cannot build a tap around this flow, itself a political and technologically objective entity policing the territory of electracy — a kind of metaphysical zone tailor-made for an habitually subjective investigation/habitation/regurgitation.

Electronic zones of knowledge are of the body, the soil, the earth; not purely of a fixed rational self, or a static heaven.<sup>63</sup> If the Word came down from God,<sup>64</sup> the pixel is the offspring of a secular scientific invention.<sup>65</sup> This is a fundamentally materialist innovation, and as electro-logic is awash with irony and metaphor, was possibly inaugurated by Adam and Eve after they were relegated to the world of work for their original sin. And once again, electro-logic illustrates the necessity of *work* to the realisation of both self and world.

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<sup>63</sup> A significant contribution to this analysis is Norman O. Brown (1959), *Life Against Death: The Psychoanalytic Meaning of History*, Wesleyan University Press, Connecticut, see especially chapter 13: 'The Excremental Vision', pp. 179-201.

<sup>64</sup> For an outline of the literate world of God see, Jack Goody (1986), *The Logic of Writing and the Organization of Society*, Cambridge University Press, Cambridge, see especially chapter 1: 'The Word of God', pp. 1-44.

This recently developed, and still developing domain I refer to as electracy is the productive ally of electro-logic. And this newly labelled arena of knowledge formation reminds us once again of Marx's dictum that, 'ever since the first moment of his appearance on the world's stage, man has always been, and must still be a consumer, both before and while he is producing.'<sup>66</sup> As if in an effort to undermine economic segmentation, which strives to separate production from consumption by making invisible the former and exclusively promoting and elevating the latter, the idea of electronic flow also implies an unbroken connection between production and consumption. Aesthetic production, of almost any kind, contains as a structuring principle, a deeply rooted connectedness between all phenomena, or at least any phenomena that can be codified aesthetically in electronic contexts.

Whatever variety of sounds, images, numbers and text go into the electronic flow, all become the *stuff* of remembering, forgetting, recalling, rejecting and ordering at the heart of the subject producing itself, and its artworks. Synchronically speaking, electronic producers consume that very same data for possible incorporation as raw material into this or that production — imagined or real, or simply one they are seeking funding for. While a great deal of 'serious' aesthetic production may source its inspiration outside the economic, electracy shifts aesthetics, and the aesthetic sensibility of the 'information worker', firmly to the centre of not just national but global life.<sup>67</sup>

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<sup>65</sup> Cf. 'The electrical industry is exceptional in that its birth and development were the direct consequence of scientific research.' In T. K. Derry & Trevor I. Williams (1960), *A Short History of Technology*, Oxford University Press, Oxford, p. 608.

<sup>66</sup> Karl Marx (1954), *Capital*, Progress Publishers, Moscow, p. 166.



This symbiosis of production and consumption within the psyche of a working subject stands in stark contrast to a global political/economic/cultural system which places undue emphasis on the *market*, often a synonym for the overwhelming 'power' of singularised consumption, or the singularly configured consumer. This social/political/economic process makes us 'uneasily aware that in the society of consumption the consumer is consumed — not himself in flesh and blood, who is still as free as the labourer; not himself, but his *life-time*'.<sup>68</sup>

In order to avoid being 'eaten alive' by a system seemingly immune to influence, the psyche vigorously elevates its productive will, both in order to reproduce itself and to alter the insidiously stagnant influence of consumption and its systematic dominance under global capitalism. Pure consumption will make us pure *slave-labourers*, eating ourselves and others alive, bloating ourselves to death.<sup>69</sup> The simultaneous animation of the production/consumption divide in electracy is an undeniable precondition for artists who work in an electronic milieu.

## Digitality/Virtuality

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<sup>67</sup> 'Employment in the arts in Australia increased by 21 per cent between 1981 and 1986', Australia Council for the Arts, (1991), *The Arts: Some Australian Data*, (5<sup>th</sup> ed.), Australia Council, Sydney, p. 30. The 'arts' is certainly a broad category, but the workplaces of a large range of electronically focussed information workers: television and radio stations, for instance, figure prominently in the Australia Council's statistical compilation. The point remains that workers with some form of aesthetic training are an increasing force in the labour market of information work.

<sup>68</sup> Henri Lefebvre (1971), *Everyday Life in the Modern World*, trans. by Sacha Rabinovitch, Allen Lane, London, p. 94. [My emphasis].

<sup>69</sup> Consider here Peter Greenaway's (1989), narrative resolution to *The Cook, The Thief, His Wife and Her Lover*, CBS/Fox Video, VHS, 119 minutes, colour. In the finale, the now dead central character is himself spiced up as a gourmet meal, his penis in aspic so to speak, ready to be eaten by the other characters.

One of the significant dilemmas of cultural production more generally is the dialectical foxtrot artists dance between the image and the word. It is the seminal conflict in the Bible: 'In the beginning was the Word!' — cf. — 'Though shalt not Worship Graven Images!'<sup>70</sup> Image and word, in their different representational ways, are both symbolic systems of understanding, always at least one step away from the 'reality' and 'illusion' they attempt to trace. This conflict binds a classical dualism: images as instinctively corrupting impulses, versus words as the bearers of rationality and logic, and thus a dispassionate code.

This division is not so clear-cut though. Victor Burgin alerts us to the following interpretation:

In the *Phaedo*, Plato puts into the mouth of Socrates a doctrine of two worlds: the world of murky imperfection to which our mortal senses have access, and an 'upper world' of perfection and light. Discursive speech is the tangled and inept medium to which we are condemned in the former while in the latter all things are communicated visually as a pure and unmediated intelligibility which has no need for words. The idea that there are two quite distinct forms of communication, words and images, and that the latter is more direct, passed via the Neo-Platonists into the Christian tradition.<sup>71</sup>

So, even in the one epistemological tradition — Judeo-Christian knowledge, there is clearly an illogical juxtaposition in the hegemonic status of word and image. As Darren Tofts makes crystal clear, through the course of an examination of the 'prehistory of cyberculture', all forms of knowledge production: visual, alphabetic,

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<sup>70</sup> For an amusing account of this long running philosophical conundrum see, Camille Paglia & Neil Postman (1991), 'She Wants Her TV! He Wants His Book!: A Dinner Conversation', in *Harper's Magazine*, March, pp. 44-55. There is also, within this 'conversation' between two figures many regard as reactionary, a fascinating gender delimiting going on: the electronic as feminine, the literate as masculine.

<sup>71</sup> Victor Burgin (1986), 'Seeing Sense', in *The End of Art Theory: Criticism and Postmodernity*, Macmillan, London, p. 70.

auditory etc. are virtual in the sense that they are *imagined* artefacts before, and in the process of becoming material cultural products.<sup>72</sup>

Electronic forms of knowledge deal with this dilemma by appropriating a whole host of symbolic codes into their aesthetic apparatus, not just words and images. Sounds, images, text (words), numbers, and the technical, along with the body as an inscriber and synthesiser of codes, are the symbolic foundations of the electronic medium, any one of which, in highly variable production contexts, can be overpowered by one or more of the other symbolic systems. For instance, MTV might at one moment be iconically hegemonic, at another moment the aural might be in the ascendancy, at the same or a subsequent moment, there may be both a communion and an antagonism between two/three/four or more, of the codes in operation.

Certainly the term *digital* has proved to be a tough categorising competitor *and* ally in the use of a term like *electronic*. This categorical uncertainty is further complicated by use of a term like *virtual*, and even the continuing use of a term like *modern*, as an oppositional adjunct to the *postmodern*. It seems to me symptomatic of the 'postmodern condition' there is this quandary over the categorising impulse. I am, however, specifically referring to a production context where the basic skills of reading, writing, talking, of visual and aural dexterity, of technical and numerate understanding, of editing, of colour, etc. are a crucial conceptual base for the electronic work of art. This confusion, then, requires that we understand the various ways in which possible categorising alternatives to the *electronic* may be practised and understood.

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<sup>72</sup> Darren Tofts (1998), *Memory Trade: A Prehistory of Cyberculture*, 21C/Interface, Sydney.

This is not to say the *word* has lost its enormous leverage in political, legal, and religious circles. Nonetheless, we also need to know how these opposing categories relate to the electronic domain and its increasing power, in both aesthetic and political terms. Originally writing for the Ars Electronica catalogue of 1984, Robert Moog — the pioneering electronic artist and inventor of the Moog Synthesiser — says that '[t]he term “digital” means that all information is represented as a stream of numbers.’<sup>73</sup>

In Moog’s pronouncement lies the key to one understanding of the term digital: through the manipulation of numbers, in particular 0s and 1s, all information can be broken down, particularised, atomised, even geneticised, into its component numeric, or even microscopic elements. Whole strings of 0s and 1s can then be banded together to form coherent messages understandable in mathematical, or body logical terms. In popular parlance, mathematical logic and cultural logic are often at odds; in the arts domain, it is frequently assumed humans and their symbolic artefacts cannot be reduced to numbers.

Numbers are closely aligned to machines and from a cultural perspective this means ipso facto no soul, no jouissance, a zone free of emotion. Nonetheless, the numerical aspect of the production of information is a central feature of nearly all cultural production, if not of its consumption. The numerical nature of information is central to temporal processes (the length of time in a shot or a scene and the establishment of rhythm, the time an aural interlude takes up, or its fade-up or fade-out). This also applies to its concomitant spatiality (depth of field in visual terms and the echo in aural terms are examples of the latter). The numerate element is a significant contributor to the production of electronic knowledge.

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<sup>73</sup> Robert Moog (1999), ‘MIDI — What It Is and What It Means to Electronic Artists’, in Timothy Druckrey, with Ars Electronica (eds.), *Ars Electronica: Facing the Future*, MIT Press; Cambridge, Massachusetts, p. 66.

More importantly, the term *digital* is the means via which each solitary aesthetic modality in production (a musical note, a pixel, a letter, a brush stroke, each hammered chip at a stone sculpture) can be conceptualised and/or sometimes acted out on its own. In the related term *analog*, the artwork is consumed as a whole, its numeric substrata obliterated under the import of its 'message', most often configured in psychological, cultural or political terms. This is precisely why in the act of cultural consumption the numerals, and their technical interlopers, have been made invisible. The compound contribution of the numerate dimension in artworks is seemingly lost.

This apparent epistemological invisibility of the numerate domain has not been totally ignored by either the Western system of abstraction, or African traditions of knowledge. In the 13<sup>th</sup> century, the Spanish philosopher Ramón Lull, a Franciscan Monk, devised a machine for helping to convert the Muslims to Christianity. Clark Glymour et. al. explain:

The machine consisted of two or more disks having a common spindle. Each disk could be rotated independently of the others. The rim of each disk was divided into sections or *camerae*, and each section bore a letter. According to the application for which the machine was intended, the letters would each have a special significance.<sup>74</sup>

The letters on the disk broke down God's overwhelming goodness into bite-size chunks: Good, Great, Eternal, etc. By rotating the disks, God's attributes could be recombined in various ways thus confirming the True Path.

Glymour, Ford and Hayes go on to argue that Lull was the first in a long line of Western philosophers (Pascal, Leibniz, Bacon, Hobbes and Kant, Freud are mentioned) who attempted to break up the Body of Knowledge into its micro-components (mathematical, linguistic, psychoanalytic etc), so that it could be re/composited in a variety of ways. This philosophical history climaxed in the 18<sup>th</sup> century when Charles Babbage and Ada Lovelass started tinkering with their Analytical Engine and George Boole invented Boolean Algebra, two systems which underpin digital logic today (the on-off, zero-one, true-false configurations).

Rather than an overarching category of production encoding, then, the digital is a means via which that encoding can be broken up into its fundamental constituent parts. It is the electronic domain that allows this digital disaggregation of knowledge forms to take place. In any electronic message-making continuum, the practice of 'being digital' is the scene of the combination of numbers, machines, code strung together (sampled) into bits then bytes, and generally, at the consumption node of the equation, disseminated as a continuous analog message.<sup>75</sup>

In part, because the concept of the digital has been an important if not dominant feature of cultural production since at least the 16<sup>th</sup> and 17<sup>th</sup> centuries, it can be subordinated under the rubric of the electronic. Because of the enormous increase in the volume of information at the digital level of encoding, it is electronic technology that allows for this more substantial recording, along with the more intensive and coherent storage, manipulation, distribution and exhibition, of digital information. In pre-electronic days, the volume of digital information was too much for an artist to process, now the computer, or its substitute, takes care of this important aspect of aesthetic production.

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<sup>74</sup> Clark Glymour, Kenneth M. Ford & Patrick J. Hayes (1995), 'The Prehistory of Android Epistemology', in Kenneth M. Ford et al (eds.), *Android Epistemology*, AAAI Press, Menlo Park & MIT Press, Cambridge, p. 7.

<sup>75</sup> Nicholas Negroponte (1996), *Being Digital*, Hodder & Stoughton, Sydney, pp 14-15, gives a elegantly simple outline of the relations between the digital, 0s & 1s, bits, bytes and the analog domain. He uses the example of the music CD: recorded and played digitally but when listened to is experienced as a continuous analog sound. Significantly, the metaphor he uses to substantiate this is the atomic structure of matter: atoms remain singular entities but when joined together form complex living organisms.

This phenomenal increase in the amount of information (one only need mention government archives, museums, libraries, family histories, public and private image and sound coffers), has also been accompanied by a propensity to archive that same information digitally — the conversion of information from analog to digital data. This scanning of a whole host of analog information sources into the digital format, along with the increasing rise in direct digital recording, has further intensified the singular, invisible and thus abstract quality of the minutiae of information. Technically and culturally speaking, every separate microcosm of digital information can become a communicative component in any kind of production. What is psychically sensible in an analog creation remains machine-readable at a digital level. In other words, digitally encoded information requires a machine for its mode of being to exist in the world.

This digital malleability has led to what Arthur Kroker and others refer to as 'recombinant logic'.<sup>76</sup> This logic can exist because the vast digitally stored electronic archive containing this enormous supply of micro-information can be un/conditionally tapped into by electronic artists to rearrange, recompose, and re-work that same material according to their own aesthetic dictates. The advent of a critical mass in the electronic dissemination of digital information has brought into question the Romantic conception of the human and narrative wholeness.<sup>77</sup> And it is electronic knowledge that foregrounds the diffused, and sometimes-incoherent elements in the body of knowledge at the expense of this wholeness.

And it is no doubt that analog information (in its continuous beginning, middle, and end manifestations), has un/consciously propagated the quest for the

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<sup>76</sup> Whilst Kroker uses the term in a number of differing contexts, the one I am referring to is his (1993), *Spasm: Virtual Reality, Android Music & Electric Flesh*, St. Martin's Press, New York.

<sup>77</sup> It is Terry Eagleton who makes this connection between the Romantic/Humanist tradition and human 'wholeness and symmetry'. See his, (2000), *The Idea of Culture*, Blackwell Publishers, Oxford, p. 17.

whole, complete subject. Like the energised current flowing through electronic circuits, it is the digitally encoded data particles the current pushes along that carry the invisible, some might say the molecular or sub-atomic level of information. While the digital is certainly central to the electronic *techne*, it is also a crucial adjunct to breaking up both the psyche and the body politic itself into its component parts. Indeed, electracy foregrounds constituent elements as much as complete art works. This is of the utmost importance to both producers and consumers where various regimes of power are globalised.

## **Electracy and Globalisation**

Sutured through, and by, these metaphysical dilemmas is the practical political fact that large institutional entities, including elements of the State, now use electronic media to record a swarm of activities in which we, as 'subjects' of a given jurisdiction, engage. From a socio-political perspective, the demarcation of a subject's actions is now firmly embedded in electronic forms of knowledge.

Driving along in our car we may be video-taped at traffic lights; shopping in supermarkets will make us a star in the storeroom, under the gaze of the store detective; news crews gather 'eye witness' reports; if picked up by police, the interview we have with them will be translated through a portable video camera;



web-cam; and think also of the 'dodgy' insurance claims that private investigators shoot video evidence of for presentation in a court of law.<sup>78</sup>

Science, Law<sup>79</sup> and Medicine<sup>80</sup> are not immune: a subject's potential bowel cancer will now be re-created on a laparoscope's video monitor. Rodney King and home-video have, of course, become the cause-célèbre of the late postmodern period. Even the great bulk of television dramas (including the news) are, in some ways, a mapping of subjective states of mind. This makes electracy a pre-eminent component of 'cognitive mapping'.<sup>81</sup> Increasingly, it is the 'objective truth' of electronic forms of knowledge that draws the Corporate State's demarcation lines around a subject's actions. What is the nature of the electronic estate's 'objective truth'? In what ways does this 'objective truth' (in this instance its productive components) saturate our subjectivities?

Or, as Toby Miller puts it in relation to the Rodney King video: 'how certain systems of interpretation may come to be of increasing significance in public and private life; or more particularly, the way in which audiovisual spaces and recordings manage to blur the distinction between public and private and then get read in certain ways.'<sup>82</sup> From an amalgam of all these things and more, electronic aesthetics is a significant factor in the way this public/private demarcation has been multiplexed.

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<sup>78</sup> For an instance of some of these processes in operation, see the Independent Commission Against Corruption's (1992), *Report on the Unauthorised Release of Government Information*, ICAC, Sydney. This extensive report gives specific examples of the complicity between bureaucratic, financial and state institutions in the commodification, albeit a black market one, of electronically situated private information, for example driver's licences, medical and tax records.

<sup>79</sup> There is increasing pressure on law courts to use video in the submission of evidence. For instance, where witnesses may be children in sensitive cases like child abuse.

<sup>80</sup> For one account of how video is used in the medical arena see Sarah Kember, (1991), 'Medical Diagnostic Imaging: The Geometry of Chaos', in *New Formations*, #15, Winter, pp. 55-66.

<sup>81</sup> Frederic Jameson (1988), 'Cognitive Mapping', in Cary Nelson & Lawrence Grossberg (eds.), *Marxism and the Interpretation of Culture*, Macmillan, London, pp. 347-357.

<sup>82</sup> Toby Miller (1992), 'Video Truth: Rodney King and the Reading of Character', in *Filmnews*, May, p. 5.

In a number of instances, the grand narrative of philosophy has itself attempted to consume its other: the Real.<sup>83</sup> Philosophy, as a literate and unambiguously elite epistemology, will fail to obliterate the real, or more accurately a yearning for the real, because as John Berger says of van Gogh's productive impulse:

The artist's creative act was for him only one among many. He believed that reality could best be approached through work, precisely because reality itself was a form of production.<sup>84</sup>

The process of a consciousness in active cognitive operation, of a *subjectivity in the making*, lies in the productive capacity of its psyche: it produces and consumes in a dream we call the moment.<sup>85</sup> The accumulation of these moments (along with their multiple contradictions), *and* their electronic re/memorising in acts of both production and consumption, are the psychic actualisation of the real, too easily confused with the objective real itself. Simultaneously, it is at this point the aesthetic process kicks in, and not only in the production of electronic works of art, but equally, as an *everyday* operation, and/or, as an aesthetic of consumption, and/or of lifestyle.

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<sup>83</sup> Jean Baudrillard's whole oeuvre is a possible product of this epistemological consumption. It is a tension implicit in a great deal of postmodern philosophising, indeed of Enlightenment rationality generally.

<sup>84</sup> John Berger (1982), 'The Production of the World', in *New Society*, 5 August, p. 225.

<sup>85</sup> Consider here Andrew Benjamin's (1991), remark: 'The 'moment' — not the present moment but rather the 'moment' of the present, the epochal present — will be inscribed within the task and, in so far as it is applicable, generate the concepts of past and future proper to that task.' In, 'Spacing and Distancing', *Art, Mimesis and the Avant-garde: Aspects of a Philosophy of Difference*, Routledge, London, p. 49.

In electracy, the aestheticising self moves to the centre of what John Frow refers to as 'the commons in information'.<sup>86</sup> And if Frow was taking aim at the ownership of information, the process is duplicated in the field of electracy itself in that the ownership of information created and centred on the self is a legitimate tradeable commodity. There can be no better example of this malleable multi-self persona as a tradeable electronic commodity than the various manifestations of the pop star Madonna. Every micro-adjustment of the self is a possible new commodity in the matrix of trade in electronic information. This is a highly volatile market though, and the value placed on any given changeling is highly variable.

Electracy, then, as it is referenced in this thesis, will mean the following: it is that domain of *self/cultural* knowledge whose arrangement, transference and interpretation relies primarily on electronic networks, systems, codes and apparatuses, for either its production, circulation, or consumption. It could be analog in the sense of videotape; digital in the case of the computer; aurally centred in the case of radio or sound-scapes; visually fixated as in broadcast television; 'amateur', as in the home-video realm; politically sensitive in the case of surveillance tapes; medically fixated in the orbit of tomography; ambiguous in the instance of *The Sydney Morning Herald* made available on the WWW, or of Hollywood blockbusters broadcast on television, or rented out from Video Ezy; and it is even constituted in the act of Brad Pitt reading a classic novel on audio-tape.

Electracy is a broad-based term, malleable and open-ended, one whose very comprehensiveness is its defining hallmark and one in which a whole host of symbolic meaning systems might reside. The codes it does not have direct access to

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<sup>86</sup> This comes out of John Frow's remark that, 'Contemporary information policy, under pressure from industry groups and considerations of short-term political expediency, sets the conditions for an increasing enclosure of the commons

(the genetic code, for instance), it appropriates in unconscious and/or metaphoric ways, a process this thesis may help to illuminate. Almost anyone can comprehend meaning in electronic media, and the knowledge thus produced forms the vectors on which the diverse markets of global capitalism thrive.

Electronic knowledge formations then are increasingly applicable to all of us as a global human conglomerate because electracy, the conceptual organiser of electronic knowledge, cognitively underpins these bustling markets of global capitalism. Electracy orchestrates a 'governmentality of the self' on a much broader subjective and political canvas than the long institutionalised variants of national character or the nation-state.<sup>87</sup> From young children to CEOs, men and women, black & white, this political shift from community to self promotes electracy as a breeding ground for a review of our geo-political allegiances.

Provisionally, the production of electronic material requires highly developed competencies in all the previously mentioned phases of communication on top of a detailed knowledge of a subject's content in any given program or project. It is in this context of the various communicative competencies required for electronic production that the term "literacy" (or, for that matter, "oracy"), becomes questionable. The more accurate conceptual frame is (after Ulmer) *electracy*, and is further defined as a well developed range and depth of communicative competency in oral, literate *and* electronic forms, biased from the latter's point of view. A crucial addition, sometimes overlooked in the earlier communicative forms, is that of the *technate*, or *technacy*, a working knowledge of the technological capacity underpinning all communication.

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in information under the rubric of copyright.' See his, (1996), 'Information as Gift and Commodity', in *New Left Review*, #219, (September/October), pp. 104-105.

<sup>87</sup> I have adapted this phrase from the work of British Foucauldian scholar Nikolas Rose. In particular, see his (1990), *Governing the Soul: The Shaping of the Private Self*, Routledge, London & New York, part 2: 'The Productive Subject', pp. 55-118.

Finally, and as Gregory Ulmer makes abundantly clear through all his work, electracy presents special problems for methodological categorisation and analysis. This juxtaposition and interaction between communicative forms makes demarcating a methodology extremely difficult because a singular methodology often assumes a solitary self-contained object of study. The question then becomes: what methodological approach is appropriate to such a 'multimodal' schema in electronic production?<sup>88</sup>

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<sup>88</sup> A term used by Gunther Kress (1997), in his 'Visual and Verbal Modes of Representation in Electronically Mediated Communication: The Potentials of New Forms of Text', in Ilana Snyder (ed.), *Page to Screen: Taking Literacy into the Electronic Era*, Allen & Unwin, Sydney, p. 73.

LEVEL 3 ... ↘

# BUSH

## METHODOLOGY/S

A philosophy is never a house; it is a construction site.<sup>89</sup>

George Bataille

### The Design

Crouched in the cusp of two millennia, it is now safe to say that postmodernism is a legitimated category, a sometimes sourly accepted methodology, a compelling (if sometimes confusing) part of the everyday — of its knowledge producing/consuming continuum. Invoked now in parliamentary debates, as well as being the subject of university courses, it is time for a reflective pause in our understanding of the term itself, of its methodological apparatus, of its consequences in the changing nature of late 20<sup>th</sup>/early 21<sup>st</sup> century work practices. Indeed, it is this everlasting imprecision — what I refer to as the *bush-reckoning*

quality of the postmodern method — that has proved to be its redeeming feature. It can be redeemed because any term that contains, or implies, an assumption that can be applied to all and sundry is equally part of a social, cultural and political program, as much as it can be termed a 'methodology'.

Indeed, the most imperial pronouncement of the postmodern project is not only to proclaim methodological processes as social, cultural, political and economic artefacts in their own right, but also to institutionalise this fact. The postmodern methodological program is now a legitimate, and legitimising, formal process; and like any formal system 'is one more site of struggle rather than something that has an innate meaning and quality.'<sup>90</sup>

Already, though, there is a problem: like any formal system, postmodernism can be defined as a category claiming as its object an historical epoch in human evolution; at another remove, it can be defined as a methodological process structuring and cohering that very same 'evolution' or 'progress'. The first definition has an overwhelmingly stationary quality; the second is a measurement and a process, a means by, and through which, the social, the intellectual, the political, the cultural, the emotional, the sexual etc., takes place.

It is primarily in this second more fungible categorisation that the legitimisation of the postmodern occurs. In a period where the processes of politics, gender, race, the psyche, technology, of narrative and space, etc., are under the microscope of constant debate, reinterpretation, reinvigoration, and deterioration, the term 'postmodernism' has been accepted (sometimes even implicitly in corrosive attacks on it), as a way of theorising this current malaise/opportunity.

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<sup>89</sup> George Bataille (1992), *Theory of Religion*, trans. by Robert Hurley, Zone Books, New York, p. 11.

<sup>90</sup> Toby Miller (1993), *The Well-Tempered Self: Citizenship, Culture, and the Postmodern Subject*, John Hopkins University Press, Baltimore, p. 150.

All epochs: Greco-Roman, the Middle Ages, the Enlightenment, Elizabethan, the Romantic era, even Modernism, have had this overarching and all-compassing naming effect in an effort to homogenise their diverse methodological processes.<sup>91</sup> Postmodernism may not be remembered for the *originality* of its methodological or artistic practice (an allegedly defining characteristic of Modernism), but one thing it will be remembered for is its reinvigoration, its retabling of the complex question of the production of knowledge itself. Considered sacrosanct from the Ancients to the Moderns, knowledge (also known by its philosophical title as *epistemology*), has itself become the centrepiece of the postmodern project. On the surface this may seem an inward turn. More importantly though, it represents a fundamental anxiety in human existence: how do we *know* what we *know*? Every methodology must address this question.

There can be little doubt that some sureties of knowledge have evaporated in the postmodern era. In the process, epistemological and practical emphases have shifted. One such change has been the shift in the interplay between 'self' and 'community' — be it local, regional or national or global. This relationship is slowly mutating to a polylogical and indeterminate spatio-temporal interplay of forces, simultaneously having many centres, and no centre at all. These axes can include, but are not restricted to: nanotechnology, the micro-biological universe, the psyche, domestic space, the workplace, the local and the regional, the national, the global, and the cosmos. While past empires might have wanted to colonise physical space, the equivalent global corporation or State today knows it is far better to colonise and control the storage spaces, the distribution channels, and the psychic arena of knowledge-making itself.

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<sup>91</sup> For a more extensive analysis of these issues see, Ibad Hassan (1987), 'Toward a Concept of Postmodernism', in *The Postmodern Turn: Essays in Postmodern Theory and Culture*, Ohio State University Press, Ohio, pp. 84-96.



To go further, to physically — and more importantly for this investigation — electronically colonise the continuum running through the microbiological universe to the wider cosmological system will require a reconfiguration of the human will, of its notions of self-hood, culture, politics and economics. Postmodernism, as both era and methodology, is paradoxically filling the shoes of a conceptual breathing space in which such a reconfiguration can, and is, taking place.

Whatever the criticisms levelled at it — and there are many — postmodern methodology rationalises and bureaucratises the chaos of *fin-de-siècle*, turn-of-the-century global capitalism.<sup>92</sup> And it is the electronic modes of the pixel↔wisdom continuum (nearly always pluralised) that are the systematic codes via which this process of rationalisation and bureaucratisation takes place. It is electronic epistemological forms that deliver the necessary micro-miniaturisation, and their macro-structural re-organisation, for this incremental electronic ingratiation into the global channels of knowledge diffusion.

The profound ‘certainties’ of modernism: individualism, democracy, spatial plenty, free will, rationality, the ‘humanising’ role of art, patriarchal autocracy etc., have produced the conditions of the postmodern methodological organism. Operating in the past as the centripetal force-fields containing and cohering the modernist condition: parliament, family, law, gender, race, age, the self, are now all centrifugally feral, colliding within themselves, and each other, in an outward spiral of psychic, political, and cultural uncertainty, along with sometimes real physical abuse. A range of these latter conflicts: male on male, State on subject, family and inter-gender violence, are good examples of this abuse, and because of their dramatic quality are given a great deal of airtime in electronic narratives, two examples being *NYPD Blue* and *Law and Order*. This chaotic intra- and inter-play

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<sup>92</sup> This assertion is a condensation of the discussion in Frederic Jameson (1984), ‘Postmodernism, or the Cultural Logic of Late Capitalism’, in *New Left Review*, #146, pp. 53-92.

of disciplinary forces, and their concomitant institutional representatives, is a paraphrasing of the 'postmodern condition' as Lyotard might refer to it.<sup>93</sup>

The specific components of this 'condition' arise out of a Modernist trajectory wherein knowledge was sometimes conceived of in primarily binary, occasionally in trinary terms. These mostly abstract binary borders contained, corralled, policed, praised and punished the knowledges they were alleged to hold intact. Their legitimacy proceeded by way of assuming the certainty of epistemological, and thus political and cultural containment.

The range of these dualisms is extensive and diverse, and it is worth making a note of some of them to be reminded of their extensive influence. At their most profound they contain both abstract and pragmatic elements. Some of these binary operations include:

body/mind  
self/society  
conscious/unconscious  
space/time  
nature/culture  
popular/high culture  
rationality/intuition  
sublime/ordinary life  
representation (or illusion)/reality  
past/present/future  
science/art  
masculine/feminine, or patriarchy/matriarchy  
subject/object

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<sup>93</sup> Jean-François Lyotard (1984), *The Postmodern Condition*.

technology/culture  
Fordist/Post-Fordist  
amateur/professional  
heaven/earth  
the material/the spiritual  
animate/inanimate

Under postmodern conditions, this framing of binary knowledge has come under intense scrutiny. Homi Bhabha gives voice to this scrutiny when he says: 'Binary divisions of social space neglect the profound temporal disjunction — the translational time and space — through which minority communities negotiate their collective identifications.'<sup>94</sup> To the extent that the postmodern period minoritises all groups, even if only in representational processes, it is the multitudinous juxtaposition of electronic knowledge forms, and their accompanying processes of hybridisation, which have come to challenge the binary as the way/s in which knowledge is systematically, and/or chaotically organised.<sup>95</sup>

This is to say the various segments of knowledge referenced by binary operations are now not so much connected to their obvious doppelgänger (or even reality), but remain both moored and unmoored to those doubles in a process that makes knowledge formation dependent on, and interdependent with, the possible sum total of all human knowledge. And maybe there is more hubris here than any devotion to some serially persistent realist, or binarising impulse.

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<sup>94</sup> Homi K. Bhabha (1994), 'How Newness Enters the World: Postmodern Space, Postcolonial Times, and the Trials of Cultural Translation', in *The Location of Culture*, Routledge, London, p. 231.

<sup>95</sup> An example of this process of 'hybridisation', in both theory and practice, is Hamid Naficy's (1993), investigation of the Iranian cable television station KSCI-TV operating in the very heart of Hollywood: *The Making of Exile Cultures: Iranian Television in Los Angeles*, University of Minnesota Press, Minneapolis. See especially chapter 6: 'The Cultural Politics of Hybridity', pp. 166-198.

This interdependence of all knowledge forms within the postmodern episteme foregrounds a process of cognitive interactivity, something always loitering about consciousness, but whose rising importance is, in part, the outcome of the decreasing importance of the binarising, or even the realist impulse. And, as David Porish notes, it is worth remembering that, 'The brain ...', as a foundational site in the process of abstraction,

is intrinsically a sur-rational machine for bringing worlds into collision, a metaphor devise, a translation circuit for closing and opening the loop between incommensurate and mutually incomprehensible universes. In my view, it is already meta-physical.<sup>96</sup>

That the brain and the whole patina of variegated knowledge forms are inextricably linked should be no surprise. That this epistemological interplay has become a foundational principle for the postmodern method is still sometimes misunderstood.

## **Methodological Intra- & Inter-play**

One reason why the postmodern enterprise took such an inordinate amount of time to fall into its hegemonic status as legitimate category is because of this

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<sup>96</sup> David Porush (1998), 'Telepathy: Alphabetic Consciousness and the Age of Cyborg Illiteracy', in Joan Broadhurst Dixon & Eric J. Cassidy (eds.), *Virtual Futures: Cyberotics, Technology and Post-Human Pragmatism*, Routledge, London, p. 46.

methodologically interactive paradigm. The heat generated by postmodernism within the academy, and elsewhere, is because it often utilises various components of differing methodologies in what almost amounts to a free-fall form of theorisation, a methodological pell-mell of knowledge formation. The word 'interplay' is itself a deliberate manoeuvre in that methodological processes take on the form of a game, a strategy of intervention *across* and *through* a range of abstract frameworks, rather than having an overt complicity with one particular methodology.

One implication of the emphasis on methodological unity is that of a monocular interpretation (too often a reverential one) of the phenomenon under investigation. While not only making raids on various methodological processes, postmodernism is also able to make predictable and unpredictable connections between these same formations. By articulating almost a guerrilla warfare tactics to epistemological formation — assess the 'subject'; detail its context; think about differing but appropriate strategies of intervention, attend to some sharp-edged conversation with colleagues and opponents; deliver the coup de grâce — a production in the form of an essay or a book, a film or video, a computer game or electronic postcard. In this way postmodernism became, in differing measures, a strategic engagement as much as a methodology. Along the way, a wide variety of knowledge forms have proliferated.

To provide a possible confirmation of this methodological interactivity in operation we should turn to an articulate opponent of the postmodern impulse itself. Neil Postman's work could easily be categorised in the vanguard of reactionary temper the print establishment brings to the electronic construction of subjectivity and knowledge. When Postman uses the term: "'Now ... this'", and goes on to say: '[as it] is commonly used on radio and television newscasts to indicate that what one has just heard or seen has no relevance to what one is about to hear

or see, or possibly to anything one is ever likely to hear or see',<sup>97</sup> he pinpoints equally an alleged breakdown in alphabetic meaning, as well as an ability of electronic modes of knowledge to bring differing methodologies into formal epistemological congruity rather than, as Postman implies, a cognitive seizure in the process of logical step-building.

The vastly differing methodologies underpinning the weather, soap operas, advertisements, game-shows, sit-coms, dramas, documentaries, cartoons, talk-shows, even geographic information systems,<sup>98</sup> computer games and virtual reality — all in all, the enormous variety of contexts and ways in which electronic information is formalised — may be varied enough to turn literate rationality apoplectic.

The point remains, however, that in both professional broadcast situations and in more private forms of electronic production, "Now ... this!" can also mean: *now* a feminist perspective; *now* an historical approach; *now* a politico-economic line; *now* an ethnic configuration; *now* a gender divide; *now* a question of sexuality; *now* a technological development; *now* a psychoanalytic dilemma; *now* a meteorological paradigm — sometimes a range of these phenomena juxtaposed simultaneously in the one scene, shot, sound-bite, or even as a textual graphic. While the institutions of broadcast television and radio, as Postman refers to them, are being transformed by the computer, it is possible the person who speaks: "Now ... this", is not only a

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<sup>97</sup> Neil Postman (1987), *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*, Heinemann, London, p. 99.

<sup>98</sup> For a localised (north of Broken Hill, N.S.W.) account of how video is used in this arena see, I. T. Grierson & M. M. Lewis (1995), 'Video Remote Sensing', in *The Australasian Geographic Information Systems Applications Journal*, #13, pp. 33-35. Indeed, the term 'remote sensing', a central concept of geographic information systems, could be more widely applied to the general edifice of the electronic domain of information production, dissemination and consumption i.e. electronic data collected technologically from afar.

broadcaster per se, but everyone one of us, or at least those people who actively engage with electronic modes of knowledge.

“Now ... this” is the axial pivot of an active subjectivity, a subject in a constant state of active looking, hearing, perceiving, feeling, regurgitating; searching for evidence of momentary authentication rather than authentication for its own sake. What Postman deplores in electronic culture is what is at the heart of the postmodern operation: the juxtaposition and interaction of a whole range of methodological systems.

This is not to say the alphabetic episteme is redundant. Indeed, it may be that a literate understanding becomes more central because if Gregory Ulmer’s argument that, ‘Television today might be thought of as a public display of “active images” produced in the absence of any specific information, and available for use in reasoning’, is an accurate one, it could readily be argued that reasoning about/through/with electronic information is still conducted, in varying degrees, within a literate framework.<sup>99</sup> It is unwise, then, to see the conceptualisation, production and consumption of information as a chasm between the oral, literate and electronic. The postmodern episteme, in its electronic manifestations, merely appropriates all modes of information in differing and shifting ways. Indeed, any methodological categorisation the electronic posits will possibly need referencing to some other epistemological entity.

This methodological interplay is also a synonym for what Toby Miller (after Derrida) calls the ‘citational complexity’ of postmodernism.<sup>100</sup> One elaboration of

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<sup>99</sup> Gregory Ulmer (1989), *Teletheory*, p. 135.

<sup>100</sup> Toby Miller (1993), *The Well-Tempered Self*, p. 44.

this idea is this: many established traditions of philosophy, and their postmodern offspring, have already been part of these cross-fertilisations in knowledge production. They have at least carried within them the *possibility* of interaction. The Harvard system of citation is structured in such a way as to sometimes encourage this interactivity *within* the body of the text. The system of footnoting, on the other hand, allows for a differing means of interactivity on the part of the reader, usually dropping their eyes to bottom of the page.<sup>101</sup> In either case, it suggests literate texts can equally be a polylogical, multi-stranded knowledge form.

While Landow himself cites Joyce, Bathkin, Barthes, Derrida, among others (all the while increasing the level of 'citational complexity'), it further indicates the propensity of knowledge, openly or furtively, to thwart disciplinary boundaries. In either case referencing, digressions, or questions posed in these systems of acknowledgment and subsequent diversion, are akin to the modes of postmodern conceptual interactivity already referred to. The process of referencing in scholarly texts establishes another connection between literate and electronic modes of knowledge. Within a digital domain like the World Wide Web, this history has become an institutionalised fact, precipitating the wholesale expansion of 'hypertext' (electronic writing) on a global scale.

## **Semantic Analysis:**

## **Knowledge as Object in Itself**

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<sup>101</sup> George P. Landow (1992), *Hypertext: The Convergence of Critical Theory and Technology*, John Hopkins University Press, Baltimore, pp. 66-69.



This interplay of methodological programs assists in viewing the postmodern disposition as a transitionary ph(r)ase, the purpose of which is to unsettle the human enterprise while what Toby Miller calls the ‘cultural-capitalist state’<sup>102</sup> institutionalises a subsequent era. A semantic analysis of the term *postmodernism* itself suggests such a transitory interpretation. *Post* — meaning after; *modernism* — meaning the period preceding postmodernism but after the Enlightenment. The semantic referent is to modernism itself,<sup>103</sup> to the ‘corrections’ that need to be made to it in order for history to proceed, with the ‘corrected citizenry’ — suitably destabilised, re-configured and, most importantly, re-educated, to a subsequently ‘new’ semantic mega-category that possibly could be called (after Baudrillard, Kroker and others) the economic/cultural/artistic era of Bio-Simulationism.<sup>104</sup>

While some enterprising global media event may prove to be the official ribbon opening this future era, the preparations for the actual semantic changeover have been occurring since at least the early part of last century. The Surrealists and Dadaists could serve as exemplars of an early manifestation of the ‘postmodern condition’. So, not only are we in a postmodern period, we are simultaneously in a *pre-* Bio-Simulationist era *and* a *post-Modern* era. The term *post*, by its hegemonic status in the current moment, anaesthetises us to its absence — the *pre*-periodisation as well as any possible future configuration, and how they might evolve into and out of one another.

In this sense I am reminded of Jules Bertillon’s comment in Christina Stead’s prescient 1930s novel, *House of All Nations*: ‘Every crisis is a storm of gold ...’<sup>105</sup> As in all periods of political, cultural and economic instability, there are also

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<sup>102</sup> Toby Miller (1993), *The Well-Tempered Self*, p. xii.

<sup>103</sup> Ihab Hassan (1985), ‘The Culture of Postmodernism’, in *Theory, Culture and Society*, vol. 2, #3, p. 121. Moreover, Hassan’s discussion articulates an inherent instability at the heart of postmodern methodology as well as other similar categorisations.

<sup>104</sup> Whilst this naming of future categories may be a provocation (some of Marx’s manifesto work should warn us off such a predilection) the idea that Postmodernism is an interstitial phase remains. However, a postmodern inquiry of any kind cannot avoid the future. See, for instance, the collection of essays in Jon Bird et. al., (eds.), (1993), *Mapping the Futures: Local Cultures, Global Change*, Routledge, London.

enormous opportunities and changes in the corresponding mindset of methodological and thus epistemological formation. By imagining the postmodern period as a crisis in knowledge formation, akin to the periodic crises that bedevil capitalism, it is possible to imagine a future. By forever being in the process of beginning, living and dying, of trading and promoting their wares, systems of knowledge are now in the marketplace too.

As thunder and lightning storm over the 'crisis' of postmodern practice, theory and philosophy (Terry Eagleton and Frederic Jameson, among others, are at the forefront of this questioning of the postmodern), there is a promised calm at this debate's centre. Specific limits are placed on the gestational anticipation of a new era by real historical conditions in real times and spaces. While postmodernism is sometimes used as a metaphoric analogy for chance and change it is worthwhile keeping in mind that '... ordinary chance is merely relative to the causes that are taken into account.'<sup>106</sup>

Large-scale historical/economic/cultural and political change does not stop happening simply because the methodological paradigms used to categorise particular eras deem it necessary to say that history itself is at an end, or for that matter methodology is at an end. Real historical uncertainty not only produces real wars, it also breeds an excess number of methodological systems, a plethora of ways to see, understand, filter and reproduce phenomena.

The methodological reality of postmodern forms of electracy harness a *mood* and/or *feeling*, which can also be characterised as a *longing*, wherein electronic

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<sup>105</sup> Christina Stead (1938), *House of All Nations*, Simon & Schuster, New York, p. 18.

<sup>106</sup> Charles Sanders Peirce (1992), 'Design and Chance', in Nathan Houser & Christian Kloesel (eds.), *The Essential Peirce: Selected Philosophical Writings, Vol. I (1867-1893)*, Indiana University Press, Bloomington, p. 219.

information is able to subliminally implant, and circuitously, be implanted by, pre-, semi-, and un/conscious intentions on the part of both its audience and producers.<sup>107</sup> It is in this elevation of mood over abstraction that electronic information, most significantly, produces psychic content within the subject. This postmodernistically produced, and producing libido is an individuating purgatory/limbo, a half-way house which desires neither the 'hell' of reality, nor the 'heaven' of its own *realisation* as a completed subject. Purgatory, the ultimate interzone between post- and pre- epistemological formations, remains as it always has: a vague promise of something better just around the corner, of an already lost past, of a future looming large in the *here* and *now*, all of which are not quite concrete enough. Purgatory, (a place of temporary suffering?) could just as easily be a synonym and a metaphor for postmodernism itself.

And it is through the hyper-reproduction of this state of mind that electronic media sources its skill in collectivising and politicising sentimentality, a mood or feeling sometimes collected as data and transformed into public opinion. This semantic reconfiguration, or what does meaning *mean*, shifts the balance of power away from some imagined exteriorised object of knowledge, a significant aspect of which was referred to as reality, onto the very subjective process of knowledge formation itself, refracting the subject/object binary in all directions.

A notable result of these refractions is that in electronic domains, knowledge formation is not merely a sedentary metaphysical activity, it is simultaneously an active physical activity. This agile process of knowledge formation foregrounds the relationship between theory and practice in electracy.

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<sup>107</sup> On this idea of 'mood', Meaghan Morris (1988), has this to say: '... media-opinion is a matter, not of contents, but, precisely, of *mood*.' In *The Pirate's Fiancée: Feminism, Reading & Postmodernism*, Verso, London, p. 261. [Italics in the original].

## Electronic Praxis

As one significant arena of electracy, video is a discursive formation that ambulates in the area Michel Foucault, when writing of an 'archaeology of knowledge', calls 'discontinuities, ruptures, gaps, entirely new forms of positivity, and sudden ... redistributions.'<sup>108</sup> One certainty video helps to disrupt is the theory and practice axis, along with the related dualism — professional/amateur. This disruption, I would suggest, is applicable to all electronic forms.

Grand narratives and/or grand theories: Capitalism, Christianity, Physics, Medicine, Communism, Democracy, the Law, Patriarchy; indeed any all-encompassing and integrated system of knowledge explaining all and sundry are conceived, from a popular perspective, as a top down dispersal of knowledge. A grand theory or narrative is generally delivered by a father figure, telling us all we need to know about the world and ourselves. This high-culture position brought packaged and self-contained knowledge of the world to the masses, unassailable in its internal 'coherence' and relevance to real conditions. Electronic knowledge, in

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<sup>108</sup> Michel Foucault (1972), *The Archaeology of Knowledge*, trans. by A. M. Sheridan Smith, Tavistock Publications, London, p. 169.

its wide variety of forms, helps to topple this edifice of top-down epistemological passage — in theoretical, religious, political, professional, and cultural domains.

Video, transformed from aesthetic idiot-savant in the 1950s and 1960s to semi-respectability in both private and public circles of the 1980s and even reverence in the 1990s, does this toppling in a number of ways. Phillip Adams' rhetorical citation, when speaking on the Rodney King beating, of the home-video camera as, 'even more powerful than Dirty Harry's magnum', is a clear illustration of how a bottom-up narrativising process is important in electronic production.<sup>109</sup> This means that isolated and seemingly innocuous everyday incidents (both trivial and profound) are the stuff of electronic content. These incidents are shots, fragments, small visual/auditory/textual snippets occurring spontaneously, generally without any larger narrative coherence. It is electronic evidence collected in the ordinary experience of the everyday. This is clearly the space of popular culture. This chaotically collective electronic re/memorising process pushes up against the traditional explanatory cogency of unified methodological or narrative formations.

This process not only occurs in domestic and/or amateur contexts. The now mandatory use of 'real' home-video footage in documentaries, and its sometimes real and simulated integration into feature filmmaking, is now an accepted feature of older forms of media like television and the cinema. Specific examples of this phenomena in the cinema are Paul Cox's *My First Wife*; Wim Wender's *Paris, Texas*; Martin Scorsese's *Raging Bull*; Patricia Rozema's *I've Heard the Mermaids Singing*; *The Falcon and the Snowman*; Steven Soderbergh's *sex, lies and videotape*;

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<sup>109</sup> Phillip Adams (1991), 'The Video Vanguard Opens Fire', in *The Weekend Australian Review*, April 13-14, p. 2. For less bombastic versions of a similar idea see, Sue Williams (1995), 'The Growth of Camcorder Culture', in *The Australian*, Wednesday, November 15, p.18; and Amanda Phelan (1997), 'It's the Sunniest Home Video Show', in *The Sydney Morning Herald*, Saturday, February 22, p. 3.

and, psychoanalytically speaking, the most complex of all Michael Powell's *Peeping Tom*.<sup>110</sup>

While electronic praxis may be both schizophrenically productive *and* (mass) consumptive, it is electracy that is the source of some high-cultural uneasiness within the 'cultural-capitalist state', while at the same time, placating, soothing, and giving a representational outlet to the arbitrariness of the everyday. Rather than containing a historically delineated linear reasoning in its discursive logic — a significant feature of a unified methodology — electracy is the very archetype of a poly-nodal, and a cognitively centred instrumentality. It achieves this status by attempting to dissolve the unitary impulse of some forms of abstract reason by transforming them into isolated, but not entirely disconnected, fragments of ordinary, everyday knowledge or, in the argot of the media industry: 'the-twenty-second-grab'. The connection comes as much through the form of the electronic device, as through the symbolic content it depicts, as by its social, economic, or cultural context.

The advent of electronic media illustrates in no uncertain terms how methodological abstraction *and* practice can be combined in the one discursive system. Electronic production may on the one hand be hard physical labour: long days, heavy equipment, rigorous schedules; this is in concert with the detailed presentation of evidence and argument, sometimes combined into narrative, and

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<sup>110</sup> On this point see, Patricia Erens (1986), 'Home Movies in Commercial Narrative Film', in *Journal of Film and Video*, vol. 38, #3/4, Summer/Fall, p. 99.

the aesthetically arranged abstract world of the content itself. Finally, it is important to remember that, 'Illusion-making and acts of interpretation are still in the domain of everyone, not simply of the privileged and powerful.'<sup>111</sup>

As Gregory Ulmer suggests, 'The ingredients of a persuasive argument ... are similar to the makings of a good story.'<sup>112</sup> In this respect, it is important to ask the question: why/how it is that methodological and narrative systems have come to resemble one another as knowledge forms? The global transformation of the university education system into mass higher education has allowed for an attentive audience ('customers') through which to spread methodological systems. Postmodernism, Deconstruction, Feminism, Cultural Studies, Political Economy, etc., have all benefited from this development.

On the other hand, the expansion of global media conglomerates like News Corporation and Time Warner-AOL, among others, have spread electronic narratives far and wide over the planet. In summary, any system of knowledge: methodological or narrative; religious or secular; in an oral, literate or an electronic form, in a limitless number of constantly morphing geo-politically located guises, all and one are integral drum-beats to subjective structuring and collectively form a key component of globalisation.

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<sup>111</sup> Jeanne Randolph (1996), 'A City for Bachelors', in Anne Moser & Douglas Macleod (eds.), *Immersed in Technology: Art and Virtual Environments*, MIT Press; Cambridge, Massachusetts, p. 159.

<sup>112</sup> Gregory Ulmer (1989), *Teletheory*, p. 49.

## **Spatial Methodology/s:**

**... the Cosmos, the Globe,**

**... the Nation, the Region,**

**... the Local, the Domestic, the "I" ...**

In much of the proceeding dialogue I have configured the electronic domain as a generalist impulse. This is both true and false. When the electronic tosses and turns from Tolstoy to Barbara Cartland, from Washington to a village on the edge of the Gobi desert, from Paul Davies to Pauline Hanson, from El Nino to a thunderstorm in Lismore, from Elle McPherson to *The Hunchback of Notre Dame*, from \_\_\_\_\_ to \_\_\_\_\_ (fill in your own data here), it liquidates, to a varying degrees, the principle of specificity.

Electronic rhetoric and knowledge can bed down virtually anything in its discourse. Out of this surfeit of informational phenomena we can detect the specific, continuing, and maturing rhythm of globalisation. The interconnections between the postmodern, the electronic, and the global have been noted by a vast number of commentators, some of whom I will make reference to hereafter. What is less obvious is the connection between globalisation and the actual labour of aesthetic production in electracy. Or, put another way: what kind of geo-political infrastructure does electracy favour? And lastly: how does this kind of *context* affect methodological understanding?

There can be little doubt the actuality and conceptualisation of the term 'global' is a vexed matter. The genocidal tendencies of regimes in Africa, Europe



and Asia; the rise of One Nation in Australia; of Neo-Nazis in Germany, France and Britain; of right-wing militias in America, have all arisen out of a century of the most horrific wars in human history. All this, and more, attests to the uncertainty and conflict produced by the term and its real affects in history. In the wash-up, the term *global* is simultaneously obvious and obscure in its meaning.

One place to start this journey of conceptual definition is a feminist interpretation. The writing team of J. K. Gibson-Graham have composed one such definition of the term:

What I mean by “globalization” is that set of processes by which the world is rapidly being integrated into one economic space via increased international trade, the internationalization of production and financial markets, the internationalisation of a commodity culture promoted by an increasingly networked global telecommunications system.<sup>113</sup>

Where this definition gets conceptually stranded is in its juxtaposition of the terms ‘global’ and ‘international’. The *global* interaction between the cited elements (along with many others) is more ‘fundamentally fractal, that is, containing no Euclidean boundaries, structures, or regularities.’<sup>114</sup> And it is this fully ‘fractal’, morphing nature of globalisation that buttresses both the fusion and interplay of methodologies *and* electracy’s ability to make formal sense of the information produced and consumed in such a milieu. The advent of globalism may have ‘shrunk’ the globe, if not in real geographic terms, then at least in the proxemics of information. The pixel↔wisdom continuum is now much more tightly compressed into the planetary sphere, and slowly becoming more accessible, albeit in sometimes highly regimented ways.

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<sup>113</sup> J. K. Gibson-Graham (1996), *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*, Blackwell Publishers, London, p. 120. As well, Gibson-Graham’s critique of globalism in the same breath as rape is a useful reminder of the oppressive nature of it as a system of social and political organisation.

By way of contrast, the mediating structure of 'internationalization' is, of course, the nation-state, with its political, military and diplomatic connections organising, supervising and cohering planetary communication among those recognised as members of the 'league of nations'. The current United Nations might usefully embody this idea in action. While the nation-state within the global arena is still influential in both theory and practice, there can be little doubt that globalisation has significantly usurped some of its power. John Holloway looks at the problem this way: '... in its most general and abstract form, money, capital is global, liquid and fast flowing. Money knows no personal or national sentiments.'<sup>115</sup> From a globally fractal viewpoint, electronic information is a mirror-image of money.

Nationalist sentiment, along with increasing levels of literacy, arose with the development of capitalism, culminating in the Fordist based industrial production phase in the early 20<sup>th</sup> century. The 'fully fractal' course of capital and labour movements around the globe since that latter period has slowly undermined a subject's traditional affiliation to the nation state. Increasing levels of electracry have helped incapacitate nationalist sentiment, and in unhinging citizenship rituals based on nationalist myths (in Australia, diggers and shearers come to mind). Capitalism's extraordinary dynamism in this current globalising phase is accompanied by a freeing up and re-positioning of the subject vis-à-vis its national affiliation. This more free-floating, ambiguous, global form of subjectivity is akin to an aesthetic sensibility. The importance of diggers and shearers will most likely continue in Australia, but they will compete with a host of other globally available and electronically mediated myths.

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<sup>114</sup> Arjun Appadurai (1990), 'Disjuncture and Difference in the Global Cultural Economy', p. 20.

<sup>115</sup> John Holloway (1994), 'Global Capital and the National State', in *Capital and Class*, #52, (Spring), p. 33.

This is not to say that the economic base determines the cultural superstructure, the classical if imprecisely iterated Marxist argument. While Brian Masumi argues this dichotomy is 'clearly obsolete',<sup>116</sup> Raymond Williams insists the base/superstructure idea is a thoroughly dynamic one, and of continuing importance. Whilst it is arguable that Marx himself believed that the economic base determines the cultural superstructure, his specific opinion is of little interest in the sphere of aesthetic production, where the economic is at once cultural, and the cultural economic. Electronic forms of knowledge production institutionalise this fact. Increasing levels of electracy further expand the trade in meaning-making as both a cultural and economic activity.

Williams further reminds us that, 'the most important thing a worker ever produces is himself, himself in the fact of that kind of labour, or the broader historical emphasis of men producing themselves, themselves and their history.'<sup>117</sup> Base/superstructure theorisations are more urgent than ever in an era of global capitalism made cognitively resplendent through electracy: a process where the material to be worked on is ideas, dreams, fears, memories, intuitions, colours, sounds, perspective, faces, computer generated images etc.

It is a sublime irony of late 20<sup>th</sup> century/early 21<sup>st</sup> century life that the market-realist methodology of neo-liberal economics (an important methodological underpinning of globalisation) is so thoroughly centred on such immaterial forces of production. While the more mechanised modes of industrial capitalism required workers well versed in both literacy and physicality, global capitalism requires a slavish adherence to the doctrine of utter mobility of mind and body. Conceptually, electracy is better placed to scaffold this political and cultural malleability.

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<sup>116</sup> Brian Masumi (1993), 'Everywhere You Want to Be: Introduction to Fear', p. 31.

<sup>117</sup> Raymond Williams (1980), 'Base and Superstructure in Marxist Cultural Theory', in *Problems in Materialism and Culture: Selected Essays*, Verso, London & New York, p. 35.

The journalistic distribution of both Monica Lewinsky's smiling face and the accompanying narratives, is proof positive print journalism also contributes to the economic and cultural evolution of these immaterial psychic forces. Charles Baudelaire said as much over a century ago in his comment, '... money is indispensable to those who make a cult of their emotions ...'<sup>118</sup> Global capitalism is as much an affectation as a material economic/cultural practice, indeed probably more so. That global capitalism has so thoroughly imbued itself in this psychic domain, largely via the organic growth of electracy, is a tribute to its political stealth. If nationalist ideology reproduced itself via literacy, it is electracy that carries out a similar task for globalisation.

This by now well established connection among artisan, artist, merchant and promoter could not be more obvious and intense than in the production of electronic cultural commodities. It is a working context (a Post-Fordist cultural production assembly line of flexible specialisation, desegregated in global space and not principally regulated from a national base) cohered and managed by the owners and controllers of global capital flows. Extending Lefebvre, then, we can say: 'Culture is not a myth, it is worse: it is a state [global?] ideology.'<sup>119</sup> Having partially exhausted production based primarily on nature in the Fordist phase (primary and secondary production), global capitalism has moved onto culture in its Post-Fordist manifestations. This is partially the reason why nature (in the guise of environmentalism) has returned with such a vengeance in the current period.

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<sup>118</sup> Charles Baudelaire (1986), 'The Painter of Modern Life', in *The Painter of Modern Life and other Essays*, trans. & edited by Jonathan Mayne, Da Capo Press, New York, p. 27.

This generalised movement in global capitalism from nature to culture would not have been possible if not for the third category of globalisation, and that is, of markets. It must be said again that methodologies need a market for their dissemination as information. However, markets are not merely agglutinations of consumers defined by age, gender, race, education, place of residence, etc. (although it is important not to lose sight of these specificities). Markets can also centre on capital, labour, distribution, and be promotional in outlook. Actually, in the electronic spheres of pay TV and telecommunications networks, for instance, distribution markets are where the acquisition of surplus value is increasingly located. As a result, there is now a global electronic marketplace.

Markets then are another multiplexed term, deserving of consideration from the viewpoint of electracy and the way it structures methodological procedures. With the planetary colonisation by global capitalism now basically complete, the markets that interest me here are, of course, labour markets. As many of the paths of colonial exploration and discovery turned into systems of transportation and communication, they carried with them a simultaneous distribution of knowledge, finance and people.<sup>120</sup> This is no less true of the global opening up of labour markets, either of the slave variety: African Americans, or transported Irish convicts; or of the wage kind: the enormous number of Third World workers ensconced in electronic component factories. With electracy, labour markets are global too.

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119 Henri Lefebvre (1971), *Everyday Life in the Modern World*, p. 97.

120 James Carey (1989), 'Technology and Ideology: The Case of the Telegraph', in *Culture as Communication: Essays on Media and Society*, Unwin Hyman, Boston, pp. 201-230. A more cyber-modern example of Carey's historical schema is Neal Stephenson's (1996), 'Mother Earth, Motherboard', the story of how fibre-optic cables are being laid on the ocean floor from England around to Japan. In *Wired*, vol. 4, #12, December, pp. 97-160.

The fact that methodologies have entered the marketplace as information systems (among other things), has helped this shift. This stretching of methodological programs into, and out of one another, and into an infinite global egress, is akin to what Mark C. Taylor and Esa Saarinen have to say on the effects of electronic information on subjectivity:

Video shatters subjectivity by launching an assault on narrativity from two directions. On the one hand video can speed up events until narrative sequence collapses into a high velocity flux. On the other hand, video can slow down events until they snap the line of narrative by its infinite extension. When experience is videoised patterns of cohesion shift; line becomes montage.<sup>121</sup>

Indeed, the very formal arrangement of *Imagologies: Media Philosophy*, can be taken as emblematic of an electronic construction of a methodology. It is a cut-and-paste pastiche of e-mails, quotes, multiple fonts, exaggerations, rhetoric, variable formatting, hyperbole, dual (multiple?) authorship, foregrounding speculation and the stochastic at the expense of conclusion and argument; it is even humorous in parts.

*Imagologies*, as a production itself, is the literate archetype of synthetic reason. Synthetic reason is an attempt to cohere 'fact[s] about several objects.'<sup>122</sup> It might also be an explanation of the way a methodology might operate in 'virtual environments'.<sup>123</sup> This is the production and consumption of networked knowledge/s, all of which can be categorised under the rubric of the *electronic*. That

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<sup>121</sup> Mark C Taylor & Esa Saarinen (1994), *Imagologies: Media Philosophy*, Routledge, London, 'Shifting Subjects', p. 8.

<sup>122</sup> Charles Sanders Peirce (1996), 'A Guess at the Riddle', in Paul Cobley (ed.), *The Communication Theory Reader*, Routledge, London & New York, p. 59.

<sup>123</sup> Manuel de Landa (1994), 'Virtual Environments and the Emergence of Synthetic Reason', in Mark Dery (ed.), *Flame Wars: The Discourse of Cyberculture*, Duke University Press, Durham and London, pp. 263-285.

a network connection can be made between Peirce and de Landa (authors from vastly different spaces and histories), is further recognition of the notion that synthetic reason will have continuing relevance in the current globalising climate.

Possibly a more advanced example of synthetic reasoning occurs in Avital Ronell's (1989) work, *The Telephone Book: Technology, Schizophrenia, Electric Speech*. This 'book' is a 'telephone conversation' in the literate domain, fixated and controlled by literacy's corporeal Other — the Voice. Using some experimental techniques in typesetting, Ronell explores the way the telephone: as voice, as technology, as psychology, as history, as media/body prosthetic, as biography, produces information.

As Ronell reminds us in the opening section: 'A User's Manual': **'Remember:** When you're on the telephone, there is always an electronic flow, even when that flow is unmarked. *The Telephone Book* releases the effect of an electronic-libidinal flow using typography to mark the initiation of utterances.'<sup>124</sup> Like a computer game, a reader can dip into any stage of *The Telephone Book*, while also remaining a important attempt to synthesise oral, literate and electronic forms. It is a multiple archetype of how an electronic methodology might be configured. More to the point, it uses a kind of authorial idiosyncrasy as a defining element in its communicational ideology.

Clearly though a problem can emerge in any knowledge producing sphere where the object of inquiry within a given framework is multiple in nature. More traditional knowledge domains like the Classics, Politics, Literature, for instance,

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<sup>124</sup> Avital Ronell (1989), *The Telephone Book: Technology, Schizophrenia, Electric Speech*, University of Nebraska Press, Lincoln, p. xv. [Bold and type-size in the original].

could articulate a singular object as the source of the investigation for the purposes of collective identification, debate and further production. When any number of methodologically disparate entities are lined up next to one another and a conclusion is reached about the connections between those entities, the question of superficiality and depth is clearly raised.

One strand of logic underpinning this surface/depth argument is that of an ever-increasing microscopic analysis of a singular object within the one methodology is a process yielding ever-higher levels of 'truth'. This interpretation is not incompatible, though, with an analysis that uses a broad range of objects contained by differing methodological fields as an equally important road to some imagined truth-telling. Electracy is a 'network associational' practice, hailing various methodologies as is necessary; it is one that says both the same and differing conclusions ('truths' in the plural) can be reached by a perpetuity of analytical tracks and avenues.<sup>125</sup>

What can be said with some firmness is that the rise of globalisation and electracy have occurred in conjunction with the 'spatial turn', which 'has been increasingly evident in a variety of disciplines, political positions, and analytical frameworks during the last twenty years.'<sup>126</sup> This spatialising turn is not merely a geographic undertaking either. Edward W. Soja alerts us to the fact that methodologies, and their impulse to contain knowledge, have also helped to spatialise knowledge, history in particular.<sup>127</sup>

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<sup>125</sup> Gregory L. Ulmer (1994), *Heuretics*, p. 36.

<sup>126</sup> Christopher L. Connery (1996), 'The Oceanic Feeling and the Regional Imaginary', in Rob Wilson & Wimal Dissanayake (eds.), *Global/Local: Cultural Production and the Transnational Imaginary*, Duke University Press, Durham & London, p. 284.

<sup>127</sup> Edward W. Soja (1989), *Postmodern Geographies*, see especially chapter 1: 'History: Geography: Modernity', pp. 10-42.



The 'spatial turn' also assists in a broader electronic diffusion of knowledge production. That is, spatialisation assists the devolution of knowledge production to subject positions, and away from institutional settings, collective practices, or methodological coherence. As history itself has come under spatial scrutiny, so too have the historical hegemony of a great many methodological systems. An example here might be the questioning of the role played by physics after the dropping of the atomic bomb that finished World War 2.

While colonisation, patriarchy, commodity saturation, scientific advancement, among other things, have helped put pressure on history, both as a methodology and a practice, the related concepts of electronic production, electracy, the global and the spatial, have stepped into this uncertainty in historical methodology with gusto. Concomitant with explorations of conceptual space then, methodological certainties have given way to the not inconceivable idea that all matter is just information swirling around an unlimited universe.<sup>128</sup> At its most extreme, this idea could be taken so far as to say any piece of information could be made to fit into any methodology. This is clearly absurd, but the point remains that as electracy gains momentum the trade in information, both intra- and inter-methodologically speaking, is becoming much freer.

It is out of this real and informational maelstrom that social disorder, madness, fear, sexuality, the abject, prisons, etc., have become key objects of study for the postmodern episteme. This by no means says that the desire for epistemological order at the heart of the methodological enterprise is finished though. Mary Douglas, in the opening gambit of her analysis of a range of 'primitive' societies, makes the pertinent comment that,

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<sup>128</sup> This idea arises out of a review of Roy Frieden's (1998) book, *Physics of Fisher Information*. While the idea is certainly controversial, it remains an indication of the enormous power information per se has over our interpretation of the world. For a readable account of Frieden's ideas see, Robert Matthews (1999), 'I is the Law', in *New Scientist*, January 30, pp. 24-28.

In chasing dirt, in papering, decorating, tidying we are not governed by anxiety to escape disease, but are positively re-ordering our environment, making it conform to an idea.<sup>129</sup>

She is also suggesting here a methodological tidying up is still a necessary activity in a disordered world. In light of the infinite extension of information in the electronic era this cleansing, arrangement and dissemination is now accomplished, in varying degrees, via technological means.

## Technics:

### An Epicentre/Prothesis of Method?

For there is no such thing as a man who, solely of himself, is only man.<sup>130</sup>

Martin Heidegger

This uneven shift in methodological processes from systematic conceptual structuring to a 'construction site' mentality and a heuristic form of self-making, would be incomplete without a further overview of the technological apparatus, something which has aided and abetted this change. Technology is one of the significant skeins infiltrating, enveloping, and extending the real, the imagination and the intellect in every form of production. The Lumiere Brothers helped inaugurate this interlacing when, in the late 19<sup>th</sup> century, they made the image move

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<sup>129</sup> Mary Douglas (1969), *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*, Routledge and Kegan Paul, London, p. 2.

<sup>130</sup> Martin Heidegger (1977), 'The Question Concerning Technology' in *The Question Concerning Technology and Other Essays*, Harper & Row, New York, p. 31.

in filming their factory workers leaving for home. The combined imagery of the factory and its workers is instructive because the relationship between technology and work processes is a very powerful one in understanding electracy.

One popular conception of technology is that it is always changing. This is especially so with the technology associated with electronic production, or communications technologies. However, another glance at the history of audio-visual technology reminds us that,

While more colour films, rather than black and white ones, have been taken in recent years, while Super-8 formats may have replaced 8 mm movies, and while sound tracks may have been added, the choice of what to represent symbolically in movie form varies little from generation to generation.<sup>131</sup>

It is here that we can make a distinction (again) between content and technological structure. Chalfen is only partly right in asserting that symbolic content changes little over long periods of time. American sit-coms, from *The Doris Day Show*, through *The Brady Bunch* to the *The Simpsons*, all rely, with differing emphases, on an ideology of the family that has changed little over time. At every level of symbolic consumption, though, there is the slow accumulation of psychic satisfaction with the available material that eventually leads to a readiness in accepting quite different kinds of symbolic material. All cultural producers need to be aware of this process of ingratiation, satiation, and ebbing in our relationship with cultural products. It is another example of desire in action. In electronic forms of communication this process is intensified.

An example of this latter point might be the work of artist Peter Callas whose experiments in electronic computer art have garnered worldwide recognition.<sup>132</sup> As a means of artistic experimentation, various examples of computer art are slowly diffusing themselves into the wider production of cultural goods. If the body can be fattened physically, it can likewise be sated conceptually and symbolically. The conceptual appeasement of symbolic material eventually wrings out a change at the level of content, and while a long-term process, it usually has some influence from technical capability and change, among a range of other factors.

One capability of electronic technology is its ability to be simultaneously a technology of production *and* consumption. It is an idea worth examining in some detail because a technology that allows for both production and consumption to be integrated in the one machine is one that allows the heuristic principle of electracy significantly greater power. While any production can merely be the conduit for any established methodology or ideology (and easily step into the realm of propaganda), a cultural artefact fuelled by symbiotically entwined notions of production and consumption can equally be thought of as a channel for a one-off methodological creation. For me, the very first viewing of *Max Headroom* made me think this latter assertion was possible. It may well be that electracy promotes the idea of a subjectively delineated methodology.

Going back for a moment, the first known patenting of amateur movie cameras roughly coincided with the arrival of the first professional cameras:

One of the first cameras designed for the amateur ... was the "Birtac",  
patented by Birt Acres of England, on June 9, 1898. Acres simply slit the

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<sup>131</sup> Richard Chalfen (1986), 'The Home Movie in a World of Reports: An Anthropological Appreciation', in *Journal of Film and Video*, vol. 38, #3/4, Summer/Fall, p. 108.

<sup>132</sup> Callas's work is mainly shown in art galleries, but has been shown periodically on programs like SBS's *Eat Carpet*. The tape: Peter Callas (1986-1989), *Peter Callas Pal Compilation 1986-1989*, video cassette, 3/4" U-Matic, 56 mins, sd., col., privately published, Sydney, is a compilation of early work and is available through the University library system in New South Wales.

standard film [35mm] down the centre, producing strips of film 17.5mm wide, with perforations on one edge, as with today's 8mm and Super 8. ... By reversing the lens, and adding a lamphouse, the camera would also function as a projector, a feature common to most amateur cameras of the period.<sup>133</sup>

This technological conflation, between the invention of amateur and professional cameras, along with a simultaneous capacity in the production and consumption of their images, has not been duplicated on a scale necessary in the history of technological development to make a difference. Until the advent of the computer, technologies designed for production and technologies designed for consumption, were conceived of as almost separate entities, at least by the corporate domain.

Further on in history, and in the professional domain, Hans Magnus Enzensberger recognised (again) that communication is (at least) a two way street:

Electronic techniques recognize no contradiction in principle between transmitter and receiver. Every transistor radio is, by the nature of its construction, at the same time a potential transmitter; it can interact with other receivers by circuit reversal. The development from a mere distribution medium to a communications medium is technically not a problem.<sup>134</sup>

This historical genesis of the electronic apparatus illustrates and dispels the illusion that aesthetics, subjectivity, or methodological processes in electracy are somehow free from technological arrangements. If myths of origin mean anything, any discourse must contain some connection to its (recurring?) foundations. If the technology of FM radio could have been more widely taken in the 1920s when it was discovered, quite a different outcome for recorded sound of all kinds might be

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<sup>133</sup> Alan D. Kattelle (1986), 'The Evolution of Amateur Motion Picture Equipment 1895-1965', in *Journal of Film and Video*, vol. 38, #3/4, (Summer/Fall), p. 47.

<sup>134</sup> Hans Magnus Enzensberger (1974), 'Constituents of a Theory of the Media', in *The Consciousness Industry: On Literature Politics and the Media*, Seabury Press, New York, p. 97.

conceived of today. Certainly, at least an *insistence* on the separation of productive capacity from privatised consumption held power till recent times.

There is no doubt though that as electronic artists continue to school themselves in the variable capabilities of the electro-technical apparatus they also learn about the absences in its techno-episteme. And it is this knowledge producing capability of all machines that arises subjectively, and inter-subjectively, sometimes more out of usage than invention, or even the control or management of that capability. Day-in, day-out usage of an electronic machine is necessary to know its full capabilities. These changing technical capabilities are now essential to electracy, as they are to other productive contexts.

The amalgam of fear and ecstasy produced by the exponential growth in electronic technologies has come about, in part, because they assemble onto the already existing traditions of the oral and the literate a diverse technical range of knowledge ordering systems. One other of these knowledge systems is the frame itself, with its correlations to perspective, depth, line, etc., some of which emanate out of fine art practice. Another is still photography, with its sub-branches in black and white and colour theory, along with the chemical ordering of knowledge. Possibly the most significant add-on is that of motion itself, and when sound, image and text move, 'Things change. That is the *sine qua non* of political action.'<sup>135</sup> If literate methodologies were relatively stable and, as Walter Ong suggests, oral methodologies static and timeless, or 'conservative and traditional', electronic methodologies institutionalise a persistently dynamic element in knowledge construction.<sup>136</sup> Along with 'poetry in motion', electronic knowledge moves at a very fast speed.

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<sup>135</sup> Sean Cubitt (1991), *Timeshift*, p. 146. [Italics in the original].

<sup>136</sup> Walter J. Ong (1988), *Orality and Literacy*, p. 41.

Dynamism is also a strong feature of the electronic human-machine interface, another distinctive feature of electracy. This relationship incorporates the element of human physiology as a knowledge producing formation, because without an understanding of perception, for instance, motion may not have been grasped. Also, an understanding of physiology inculcates the whole corpus of medical technologies from the 18<sup>th</sup> century up to the present Human Genome Project. The variable domains in the human/machine interface contribute to every artist's dilemma: it is not simply the artist imposing their will on the technical apparatus, it is the dialogic nature of this psycho-technical relationship that is of interest. This is where the human can take on machine-like qualities, and the machine can be programmed with human-like qualities. A knowledge of cybernetics is now crucial to understanding electracy.

In light of these realisations, methodological construction does not escape the complexity of the human/machine interface in either the oral phase (the voice-box is a technology), or the literate (pen, paper, typewriter). It has taken the advent of the electronic era to fully realise the importance of *technacy* in the construction of all human knowledge.

While a programmatic understanding of technacy might produce a merely functional outcome, a more philosophical, reflective and pragmatic analysis will answer Toby Miller's assertion that:

Technologies for tracing the structures or experiences that are held to underwrite texts come to be heralded for their ability to express or

expose forms of consciousness. But their productive capacity, their making of that consciousness, is rarely considered.<sup>137</sup>

By embodying technacy in the realm of methodology, of structuring it as a partner in understanding the 'making of consciousness', of technically 'knowing thyself', we will at once recognise the 'hardware, software, wetware' continuum as crucial to the production of knowledge.<sup>138</sup>

While literate modes of production still hold sway in many quarters — universities, law courts, parliaments, diplomacy and the like — it is this 'productive capacity' of electronic modes of knowledge that form a cue for the construction of subjectivity in everyday life. A seemingly pragmatic term like 'productive capacity' refers not merely to a set of technical or economic operations, it is also a conduit for the producer's subjectivity, aesthetic intentions, political affiliations, cultural and spatial groundedness, or merely flights of fancy, all of which could be encapsulated under the term 'authorial intention'.

This productive capacity incorporates what would normally be considered electronic technologies, for example video and sound tape, cameras, lighting equipment, make-up, as well as 'import[ed] artistic methods',<sup>139</sup> some of which have already been referred to. It is this combination of technacy with aesthetic configurations that is a significant axis on, and around which, the electronic artist spins.

Finally, one last point will take us back to the beginning of this discussion on electro-technics. If symbolic re-invention occurs on a long-term historical scale then it may mean that various forms of electronic cultural production are more

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<sup>137</sup> Toby Miller (1993), *The Well-Tempered Self*, p. 73.

<sup>138</sup> Bilwet Adilkno (1992), 'Hardware, Software, Wetware', in *Mediamatic* vol. 7, #1, pp. 3-7.



intimately tied into the economic cycle. The already referred to Kondratieff cycle is a theory of long term economic change that argues capitalism can be periodised around particular technologies: cotton/wrought-iron, steam engines, electricity, cars, electronics, computers, bio-technology etc.<sup>140</sup> Once the full measure of surplus value is extracted from the dominant technology in a given period, capitalism must move onto a subsequent technology. The waning of one technology is simultaneously the innovation and experimentation phase for the subsequent dominant technology. As Gerhard Mensch says in the title of a highly detailed account of this idea, 'innovations overcome the depression'.<sup>141</sup> Electracy underpins this long-term economic view by emphasising a constant state of research, innovation, and creativity in cultural production.

While the idea that the innovative vicissitudes of cultural production are connected to the long term repetitions in capitalism may not find solace with the arts crowd, it is nonetheless instructive to think of the two elements as collaborators rather than sworn enemies. Electronic production too has its avant-gardists, its innovators: the movement of the MTV aesthetic from the fringes of art galleries to the centre-stage of marketing video clips for pop-stars is one such example.<sup>142</sup> And in a feverishly changing 'cultural capitalist state', the avant-garde and the mainstream are more closely linked than many cultural producers would care to admit.

## Conclusion:

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<sup>139</sup> John T. Caldwell (1993), 'Televisuality as a Semiotic Machine: Emerging Paradigms in Low Theory', in *Cinema Journal*, vol. 32, #4, Summer, p. 29.

<sup>140</sup> Peter Hall (1981), 'The Geography of the Fifth Kondratieff Cycle'.

<sup>141</sup> Gerhard Mensch (1979), *Stalemate in Technology: Innovations Overcome the Depression*.

<sup>142</sup> For a more extended discussion on this point see, Philip Hayward (1990), 'Industrial Light and Magic: Style, Technology and Special Effects in Music Video and Music Television', in Philip Hayward (ed.), *Culture, Technology & Creativity in the Late Twentieth Century*, John Libby & Co., London, pp. 125-147.

## **Electronic Productivity in the Globalised Cultural-Capitalist State**

While these changes in how methodology is understood, social, political, aesthetic and economic power bases have consolidated the demands that capitalism has over the subject. In the 'cultural-capitalist state', legal, political and military force has, to varying degrees, been added to the systematic manipulation of knowledge in the ordering and cohering of the governmentality of subjectivity.

This has occurred via instrumentalities of various kinds: stories (film, TV, radio, pop and classical music, computer and video games literature, in a mix of fictional and/or documentary modes); photographs; the perennial psychoanalysis of relationships; fashion; home-ownership; the intensifying question of security; educational dictates; work arrangements; etc. — in short a plethora of discursive systems to rope in, organise, and manage 'free-thinking' subjects. The dynamic created by this illusionistic process of control through information rather than physical force has also foregrounded the fact that methodologies of information are now a central component of politics, the economy and culture.

Mammoth institutional frameworks like the State, a corporation, the church, or even an admixture of them, cannot wholly contain or control this subjective informational sovereignty of electracy. Though writing in the early 1960s, Hans Magnus Enzensberger could say:

Consciousness, however false, can be induced and reproduced by industrial means, but it cannot be industrially produced. It is a "social

product” made up by people: its origin is the dialogue. No industrial process can replace the persons who generate it.<sup>143</sup>

What has been consolidated more recently is the fact that now there is no place outside of this wholly ‘pluralistic’ social system in a similar way that there is no *outside* of electronic forms of knowledge, methodologically, technically, or globally speaking.

Certainly, much traditional Left and avant-gardist rhetoric since the 1960s infused the idea that ‘true’ subjectivity is only constructed outside the capitalist mode of production.<sup>144</sup> The ambiguity of this clarion call to an ersatz freedom outside of capitalism, whilst redolent of a ‘warm inner glow’, serves only to confirm the chameleon-like-informational-mirage now constituting our political, social, cultural and economic system: capitalism is itself a simulacra. While I remain sure this point has been made elsewhere, I just don’t know where, every subject, postmodern or otherwise, is directly involved in this simulacrum, as certainly the “i”story of Terrence Maybury remains just another example of. And, as in any relationship, there are varying degrees of control/dependence because electronic productivity and consumption are profoundly social and will remain so.

For those people working in the information milieu, a handshake with the devil is wrought in this process. Not only is the tertiary sector underwriting the infrastructure for the innovation phase of the ‘new economy’ (in this sense it is ‘research’ that constitutes the invention and innovation phase in an information

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<sup>143</sup> Hans Magnus Enzensberger (1974), ‘The Industrialization of the Mind’, in *The Consciousness Industry: On Literature, Politics and the Media*, Seabury Press, New York, p. 4-5.

<sup>144</sup> In this context Rosalind Krauss’ ideas, in her (1985) essay, ‘The Originality of the Avant-Garde’, in connection with the Modernist reverie of the avant-garde are instructive. Looked at from Krauss’ point of view, avant-gardist tendencies are an effort of the artistic elite to steer clear of the *masses* in the social and political world — the later being pollutants of a ‘pure’ artistic originality. In *The Originality of the Avant-Garde and Other Modernist Myths*, MIT Press, Massachusetts, pp. 151-170.

economy). It is also producing the 'correctly' equipped workers to guarantee capitalism's continuation under this transformed mode of production.

At more than any other time in history, the intelligentsia in general, and philosophy in particular (in its endlessly malleable epistemic peregrinations), have become the avant-garde of the capitalist order. Indeed the more 'radical' a critique or a methodology, the more likely it will find influence either as social and/or political rectitude or as epistemic fashion. Before the advent of a full-blown postmodern periodisation (which might be said to be the 1960s), the pursuit of knowledge was easily dismissed as a distraction, a self-indulgence, a whim, a space in which a subject could attain apolitical enlightenment, or better still, a nirvana of self-understanding. The aftermath of the current *fin-de-siècle* will put paid to this easy dismissal of knowledge as a pursuit of the idle rich, or the indolent. An electronically arbitrated, and aestheticising subjectivity is now a significant engine of transglobally defined capitalist growth.

This fragmentation of methodological processes now may have less to do with traditionally antagonistic demarcations in the academy, (arguments that usually remain internal to that section of the knowledge producing field itself), than it has to do with the direction of global capitalism. An instance of this traditional antagonism between differing modes of knowledge formation actually coming together resides in the striking philosophical pornography of *The Story of The Eye*, a metaphysical reflection on the journey a disembodied eye takes into a vagina.<sup>145</sup> Here multiple forms of subjectivity are joined to multiple forms of methodology.

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<sup>145</sup> George Bataille (1982), *Story of the Eye*, trans. by Joachim Neugroschal, Penguin Books, Harmondsworth.

These disparate discursive lacunae have been idling away in the psyche and politics for over two millennia as a turbulent unconscious spasm, awaiting the necessary spatio-temporal conditions for their inauguration into the everyday and the real. The postmodern disposition, conjured up by late 20<sup>th</sup> century life and its movement into the 21<sup>st</sup> century, is an objective realisation of this interstitial turbulence, a direct result of the conditions invoked when various forms of disparate knowledge are forced into the same cognitive, political and geographic space.

To be sure, this dissolution of more rigid methodological boundaries is nothing new. Whilst already hinted at earlier in connection with broadcast situations, home-video production, and music video, it has been stressed again and again in a number of theoretical undertakings. Donna Haraway's theorisation of the cyborg is a gender-centred re-reading of the human-machine interface, fusing a range of methodological fields in arriving at its conclusions.<sup>146</sup> From an anthropological perspective, Clifford Geertz provides a thorough going outline of how the social sciences in general have been practising a 'blurring of genres' for a number of decades.<sup>147</sup> In the computer domain, 'epistemological pluralism' is now taken as a given.<sup>148</sup>

Perhaps the most challenging tract, politically speaking, is Paul Feyerabend's *Against Method*, a call to arms for '... *anything goes* ...' And while Feyerabend's

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<sup>146</sup> Donna Haraway (1987), 'A Manifesto for Cyborgs: Technology and Socialist Feminism in the 1980s', in *Australian Feminist Studies*, #4, pp. 1-42. Indeed, Haraway's oeuvre is a testament to methodological interactivity.

<sup>147</sup> Clifford Geertz (1983), 'Blurred Genres: The Refiguration of Social Thought', in *Local Knowledge: Further Essays in Interpretative Anthropology*, Basic Books, New York, pp. 19-35.

<sup>148</sup> Sherry Turkel & Seymour Papert (1990), 'Epistemological Pluralism: Styles and Voices within the Computer Culture', in *Signs: Journal of Women in Culture and Society*, vol. 16, #2, pp. 128-157.

'anything goes' approach to knowledge formation could result in a madness of the most debilitating kind, he makes the pertinent comment that,

Experience arises *together* with theoretical assumptions *not* before them, and an experience without theory is just as incomprehensible as is (allegedly) a theory without experience: eliminate part of the theoretical knowledge of a sensing subject and you have a person who is completely disorientated and incapable of carrying out the simplest action.<sup>149</sup>

This viewpoint is a timely reminder methodological processes are deeply grounded in the life-world of real subjects. All of these texts and more, either implicitly or explicitly, posit the interactivity of methodological processes as, if not an institutionalised fact of knowledge formation, then a significant contributor to such a process.

Indeed if we look more closely at these related concepts of the 'human-machine interface', the 'blurring of genres', 'epistemological pluralism', 'local knowledge' and 'subjectivity' etc. there is a thread of logic that electracy winds through them. While virtuality and '... the imagination can take us to the funereal of the universe',<sup>150</sup> groundedness is a spatially configured life-world attribute, one that relishes the limits of our anthropological power, not the absolute power we *imagine* we have. Each and every one of us operates in an alpha/omega of psychic, domestic, local, regional, national, global, even cosmic spaces. What Gregory Ulmer sees as, 'The emergence of a 'regionalized epistemology ...', is pertinent to this above-mentioned geo-political spatialisation and the fracturing of various forms of knowledge under global capitalism.<sup>151</sup>

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<sup>149</sup> Paul Feyerabend (1978), *Against Method: Outline for an Anarchistic Theory of Knowledge*, Verso, London, pp. 28 & 168. [Italics in the original].

<sup>150</sup> Nigel Calder (1984), *Timescale: An Atlas of the Fourth Dimension*, Chatto & Windus & Hogarth Press, London, p. 73.

<sup>151</sup> Gregory Ulmer (1989), *Teletheory*, p. 82.

The regional impulse, as both a methodological and a geo-political understanding, is appropriate given that the psychic, domestic, and local domains are insufficiently powerful to match globally congregated sources of power. I have always thought of regional space as that which could be *driven* around in a day, as much as a local space can be *walked* around in a day, like de Certeau's idea of 'walking in the city.'<sup>152</sup> Chorographical forms of knowledge then can appropriate any cosmically, and/or globally, and/or nationally, and/or locally, and/or domestically, and/or psychically based value, belief or idea under the whim of its own spatially specific productive apparatus. The representational strategies in rap, home-movie/video, country music, computer game culture, are clear examples of this 'regionalized epistemology', all with the globe as their lyceum.

While a fuller explanation of a 'regionalized epistemology' will have to wait for another time, the development of the portable Sony video camera in the 1960s, for example, brought with it an agile and mobile electronic body and mind — the electronically re/producing subject now has the means of its own postmodern expression. The personal computer and the MP3 machine, for instance, extend this chorographically informed knowledge production into the current moment. With the full flowering of the electronic arena now under way, the chorographically specific, yet methodologically mobile subject becomes a more fully realisable phenomenon.

If Foucault characterised the 'modern episteme' as a 'volume of space open in three dimensions',<sup>153</sup> then we may be able to characterise the modern *electronic* episteme as not merely a three, or with the addition of the politically explosive element of the temporal, even a four dimensional interplay. Rather, a

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<sup>152</sup> Michel de Certeau (1984), *The Practice of Everyday Life*, trans. by Steven Rendall, University of California Press, Berkeley, pp. 91-110.

<sup>153</sup> Michel Foucault (1973), *The Order of Things: An Archaeology of the Human Sciences*, Vintage Books, New York, p. 347.

chorologically centred electronic episteme is a chaotically contrived, pattern following, multi-dimensional space wherein the known, the imagined, the fantasised, the familiar and alien, intermingle in peaceable and warlike ways. It makes the cultural field of the future more an object of the imagination rather than an abstracting intellect, but an imagination grounded in a specific place or region.

Again, all of this is nothing new: Foucault was saying as much about the array of mainly literate knowledge forms he refers to in both *The Order of Things* and *The Archaeology of Knowledge*. To Foucault's referencing of philology, biology and political economy, we can add any number of '-isms' and '-ologies' that populate the totality of knowledge in electronic contexts. A bush methodology then interrupts the focus on a singular domain of knowledge by emphasising the switching between, interaction across, and the interfacing and networking among, a whole variety of methodologies.

Foucault's writing enabled this 'secret history' of interactive epistemological practices in literate formations to become common knowledge in the postmodern, primarily electronic era.<sup>154</sup> Electronic knowledge producing practices are thus able to gain momentum on the back of this 'secret history', largely because of its actual everyday usage among both knowledge 'elites' (the producers and owners of knowledge), and 'commoners' (the consumers/receivers and the amateur producers of various knowledge forms). Electracy itself is part of this 'secret history'.

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<sup>154</sup> This idea of a 'secret history' is from Greil Marcus's (1989), *Lipstick Traces: A Secret History of the Twentieth Century*, Secker & Warburg, London. In essence, my reading of the idea is that right under our very noses lurks an unseen knowledge both obvious and un-reasoned.



Indeed, the struggle over meaning in formal debates about methodological issues is more crucial than ever given the 'ownership' of various audio-visual properties by large global companies. This has occurred along with an expansion in the number of star-studded theorists as originators of significant new methodologies (Derrida and Deconstruction are a stand out example in the latter case). The rhetorically charged atmosphere of debates in and about postmodernism serve to remind us yet again of the difficulties faced by "truth" claims, or at least those based on a singular methodology.

On this latter point of 'truth', though, Michel de Certeau remains pertinent:

"Truth" no longer depends on the attention of a receiver who assimilates himself to the great identifying message. It is the result of work—historical, critical, economic work. It depends on the "will to do" (*un vouloir-faire*).<sup>155</sup>

While the aesthetic (a will to make) can also be added to de Certeau's work-list, it is to the nodal pivot of this difficult labour: this body, this self, this corporeality, to this agent in the production of "truth", that I now turn.

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<sup>155</sup> Michel de Certeau (1984), *The Practice of Everyday Life*, p. 137.

# THE *SUBJECT* OF THE ELECTRONIC AESTHETIC

The *forming* of the five senses is a labor of  
the entire history of the world down to  
the present.<sup>156</sup>

Karl Marx

Aesthetics is born as a discourse of the  
body.<sup>157</sup>

Terry Eagleton

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<sup>156</sup> Karl Marx (1964), *The Economic and Philosophic Manuscripts of 1844*, Dirk J. Struik (ed.), trans. by Martin Milligan, International Publishers, New York, p. 141. [Italics in the original].

## Subject/Subjectivity

As Raymond Williams notes, the words 'subject' and 'subjective' are 'profoundly difficult'.<sup>158</sup> Neither comes unencumbered in their historical development and current usage. Both terms are often utilised as much to disorientate as to illuminate. In the Western canon, the term 'subject' could simultaneously refer to, among other things, 'the citizen as subject of the State or Law'; secondly, it could refer to 'the thinking subject ... the site of consciousness'; or lastly, it could refer to 'the subject of a sentence.'<sup>159</sup> With this ambiguity in understanding cutting across politics, culture, the body, and representation, the current era is fascinated by the 'turn of the subject', to use Stephen Heath's redolent phrase.<sup>160</sup> Rearranging the sequence then, there is also a significant 'turn to the subject', and the body, across a range of differing thinkers and methodologies. This attempt to juxtapose electronic aesthetics and subjectivity is part of this broader project.

Feminist philosophers have long pointed out the fallacy involved in the subject/object classification. That there was an excess of 'value' and 'neutrality' implicated in a term like 'objective rationality', seemed to ignore self-interested, masculine forms of power. At the same time, more rigid methodological processes, sometimes scientific, sometimes political, configured the subject/ive as an entity of

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<sup>157</sup> Terry Eagleton (1990), *The Ideology of the Aesthetic*, p. 13. Clearly, the title of this Level is taken from Eagleton's book, in an amended form.

<sup>158</sup> Raymond Williams (1983), *Keywords*, Fontana/Flamingo, London, p. 308.

<sup>159</sup> O'Sullivan *et al.*, quoted in John Fiske, (1989), *Television Culture*, Routledge, London, pp. 48-49. This condensation of a large body of Western thought is no doubt inadequate. However, I am more interested in how the current uncertainty operates in electronic conditions rather than a historically detailed analysis of the terms under discussion. Indeed, this quotation of a quotation is a deliberate comment of the citational refractions contained in these terms.

<sup>160</sup> Stephen Heath (1979), 'The Turn of the Subject', in *Cinetraacts*, vol. 2, #3/4, pp. 32-48. I will return to this essay in due course.

lesser value and classified the term as more purely feminine.<sup>161</sup> All these cited texts bring to light a range of urgent questions on the relations among this conceptual trinity of masculinity/subject/ivity/femininity. A question posed in all these works is how subject/ivity itself is produced in the representational practices available to it. Of particular interest here is investigating the subject's relation to the electronic variations of these representational practices.

Any methodological system, or philosophical doctrine, is almost never a neutral power-base of polite intellectual enquiry.<sup>162</sup> Various methodologies and philosophies have always been the epistemological power-base through which various institutions: the State, Corporations, Religion, Parliaments, among others, created order out of the seeming chaos of subjectivity, of the human element. There is no doubt though, 'a philosophy of the body' is also a marshalling into existence of a certain domain of power. Within these various battles over power, many Western liberal-democratic States were able to contain the whole regimentation of some imagined subjective unpredictability under the rubric of the 'rights of the individual'.

By declaring the sanctity, the political certainty, of the 'individual', the state unconsciously left the 'subject' to its own tactility, to the eternal play of both intra- and inter-subjectively signifying, and self-realising processes. This was in conjunction with a cultural/economic system increasingly banking on the intensified development and exploitation of these very same processes. In a way,

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<sup>161</sup> This point is by now a well established. See, for instance: Rosi Braidotti (1994), *Nomadic Subjects: Embodiment and Sexual Difference in Contemporary Theory*, Columbia University Press, New York; Judith Butler (1990), *Gender Trouble: Feminism and the Subversion of Identity*, Routledge, New York, and the already mentioned, Elizabeth Grosz (1994), *Volatile Bodies: Towards a Corporeal Feminism*, Allen & Unwin, Sydney.

<sup>162</sup> Cf. 'Philosophy is not, in spite of its self-representation, a rational, intellectual system of enquiry and knowledge acquisition, based purely on truth considerations and the requirements of conceptual coherence. It is a practice, a strategy, and thus part of struggle, a battle. Philosophy is not a reflection on things or concepts from a transcendent position; it is a practice that does things, legitimizing and challenging other practices, enabling things to happen or preventing them from occurring.' See, Elizabeth Grosz (1994), *Volatile Bodies*, p. 126.

electracy is the preferred mode of abstraction for both the highly educated global citizen, an electronically mediated cosmopolitan and/or local, as well as the 'uneducated' kids who play Nintendo.<sup>163</sup>

The very real possibility of the objective manifestation of this electronically mutable postmodern subject has been with us since at least since the French and the American Revolutions, and can even be evoked in Plato's Dialogues. Indeed, the current state of subjectivity may partly have arisen out of historical circumstances in which we were actually considered *subjects*, that is, we were owned body and soul by a King, a Queen, or a Deity. Our objective existence, regardless of whether we lived in that era or today, is still as a 'living sign' of this or that oligarchy or monarchy, ideology or methodology. Arthur Kroker comments on this process when he says:

... to the extent that our own subjectivity has become a living sign of the simulacrum, then we also undertake an inner migration: an intellectual voyage where the Socratic admonition to "know yourself" takes place now only in the doubled, and ultimately reversed, sense that self-recognition is really about discovering anew the shock of the real.<sup>164</sup>

The real, the objective, is exhaustively entwined with/in the subject, and subjectivity. If, in oral and literate forms, the word was metaphorically morphed into, and literally Kafka-etched into the skin of both renegade and compliant subjects; electronic information, by contrast, is implicitly accepted, taken in, as if we *produced* it ourselves. We gladly, willingly, pleasurable, inscribe ourselves electronically, and some do not even know it yet. A great deal of this electronic will-to-information is real *and* imagined, true *and* false, subjective *and* objective,

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<sup>163</sup> Ulf Hannerz (1990), 'Cosmopolitans and Locals in World Culture', in *Theory, Culture & Society*, vol.7, #2/3, pp. 237-251.

<sup>164</sup> Arthur Kroker (1993), *Spasm*, pp. 149-150.

fanciful *and* tactile ... This is the utterly motile form of electronic information as pleasurable psychic fuel.

To the degree this knowledge is electronically formulated, it is a psychic manifestation of Andrew Benjamin's idea of the 'whatness' of experience:

It is simply that in so far as the interrelationship between understanding, tradition and meaning is concerned, the 'whatness' — in relation to non-limit experiences — is determined in advance. Within such experiences distance can only be said to figure in its being effaced. It is with the emergence of the question of re-experience that the homological nature of experience can be opened up. Distance and spacing become reinscribed. Plurality would seem to intrude. Experience gives way to interpretation.<sup>165</sup>

Through the multiple repetition of the same and similar electronic information, a subject's manifold interpretations are elevated over the actual experience of the event/s, more than even a first-hand experience of a specific representation, or even of reality itself. An electro-mediated subject trades as much in 're-experience', as any imagined first-hand experience. In the electronic domain, the ontic (being) the epistemic (knowledge), and the axiological (value) more thoroughly converge as a result of this elevation of 're-experience'. This could be said to be electracry's ability to continually present the same and differing information over and over again, in a range of different formats, and from different angles and perspectives, thus allowing differing interpretative takes on it from each of these three categories of subjective definition. Not incidentally, this also elevates the discursive realm over that of action. Hamlet would be right at home in electracry.

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<sup>165</sup> Andrew Benjamin (1991), 'Spacing and Distancing', in *Art, Mimesis and the Avant-Garde: Aspects of a Philosophy of Difference*, Routledge, London, p. 55.

These shifting ambiguities in electronic form and content are compounded by the received wisdom of the Modernist conception of the work-of-art as timeless — the “art as object” argument. Various, this conception is being replaced by electracy’s notion of art as a “dematerialised communication of ideas.”<sup>166</sup> While advocates of the material preciousness of the traditional artwork still abound, electronic aesthetics is more to do with an unstable means of knowing. It is a cognitively rhythmic prosthesis, brought to bear on each of our psyches, with both artist-subjects, and a wide range of electronic art, all interconnected in an abstract ideas-market of global proportions.

The information produced by such a process of aesthetic conceptualisation might make it possible for a more ahistorical tendency to emerge. This is because, cognitively speaking at least, it can suddenly appear out of nowhere, and when it does it is all just *data*.<sup>167</sup> If history can sometimes be transformed into histrionics, the same might be said of the electronic artist in reference to artistic originality. The sometimes inexplicable ‘ah-ha’ moment of aesthetic conceptual luminescence may blind them to the possibility that that same realisation may have occurred in a range of other people in differing times and spaces. The result: an intensification of the *present moment* in this pleasure of finding out what possibly is already known. Electracy produces a whole universe of information for every single one of us. This singular, and spiralling repetition of the already known, is a feature of an information system given to an exponential and experiential overload in both form and content.

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<sup>166</sup> Margot Lovejoy (1989), *Postmodern Currents: Art and Artists in the Age of Electronic Media*, UMI Research Press, Ann Arbor, p. 227.

<sup>167</sup> Cf. ‘[Today] knowledge — saturated in historical memory — is displaced by information, or memory without a history: data.’ Cynthia Ozick, “T.S. Eliot at 101” (1989); quoted in William Least Heat-Moon (1992), *PrairieEarth: (A Deep Map)*, Picador, London, p. 141.

Among all this choice in form and content, the electronically demarcated self has emerged (and over which a God, a Monarch, or even a political or culturally focussed ideology, might previously have been key determinants). Subject-hood is now a fully secular activity. This is an artist-subject eternally modified by its 'own' thoughts, its 'own' productions, in concert with the multiple re/actions of other subjects with which it might come into contact — physically, metaphysically, politically, socially, culturally, electronically. In some ways, the trouble afflicting the theory and practice of literacy also represents a yearning for a reincarnation of the Word of God, as a means of containing the materialising quality of a code-plentiful, information-rich, an allegedly unoriginal electronically-mediated existence.

## Codes in Un/Conscious/ness

Certainly the Postmodern period says this apostasy is complete, the self is on its own, completely forsaking its 'debt' to a Higher Authority, it broods in the loss, while simultaneously revelling in its newly won freedom. Even that most romantic prophet of the postmodern — Walter Benjamin — was under the spell of this earlier, but now lost, 'grand' form of subject-making:

The more trivial the content of a lifetime, the more fragmented,  
multifarious, and disparate are its moments, while the grand period  
characterises a superior existence.<sup>168</sup>

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<sup>168</sup> Walter Benjamin (1985), *One-Way Street and Other Writings*, trans. by Edmund Jephcott & Kingsley Shorter, Verso, London, p. 96.



A subjectivity built on/through/with electracy encapsulates in its repertoire these 'fragmented, multifarious, and disparate ... moments', fuelled in part by the speed, volume and intensity at which electronic information circulates globally. The large-scale move from manual to mental labour, the transition from Modernism to Postmodernism, has also been accompanied by an increasing awareness that the number of symbolic codes available for this subjective rendition is also multiplying. The multiplying number of codes available to electracy are themselves part of this fragmentation.

This expressive vitality of electronic codes has changed the relationship between subject and artwork. In the past, the latter was circumscribed by the Great Work of Art that produced the *modus operandi* of artistic consumption and production under Modernism. Artistic elitism excised ordinary people from the ambit of the Modernist work of art. Terry Eagleton explains it this way:

If the critical force of the modernist work of art was deflected by its distance from social life, that of many a postmodern artefact is blunted by its complicity with it.<sup>169</sup>

While it is true a lot of electronic art is dressed up as self-analysis and promotion on the part of the producer, it is also fair to ask how this aesthetic complicity utilises various electronic codes to shape subjectivity?

The irrepressible connection between aesthetics and subjectivity is backed up in politics and culture by phrases like 'autonomy of the individual genius', 'artistic licence', 'freedom of expression' and the like. However, what can be said about this connection between codes and subjectivity is that while each and every subject may

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<sup>169</sup> Terry Eagleton (1994), 'Discourse and Discos' p. 4.

think itself fixed in its material ego quality, there is no *one* "I" in the subject. Stephen Heath puts it this way:

The history of individual subjectivity is never over, never concluded (were this so there would be no scope for psychoanalytic practice) but is interminably actual, ceaselessly going on in the present. I do not become a subject, 'I' am the term of a structuring production in process which defines 'my' instance of subject.<sup>170</sup>

While this is no doubt an inadequate summary of the conceptual depth in a psychoanalytic understanding of the subject, it remains within this discourse that subject/ive definition is an interminable, 'never-fixed product of language'. For psychoanalysis, the linguistic code is at the epicentre of subject formation. The formation of subjectivity in electracy, then, can take a cue from this mobile linguistic fixation.

Psychoanalytic theory, with its roots in Freud, Klein, Lacan, Derrida, among others, places subject formation in the continuum of a ceaselessly evolving momentum, a process largely policed by language. Stephen Heath (citing Lacan, and in the style of abstraction resonating at the very limits of literate interpretation, along with a poetic imitation of the rhythmical process of subject de/formation itself), condenses this vast array of literature in the psychoanalytic understanding of the subject in the following unforgettable way:

'I' is an instance of the subject in language: that is, at once of its division in the symbolic ('I' marks 'me' in the activity of language, in the process of the signifier, which 'I' can never fix, never stop **as mine**; 'I' itself is an element in that interminable movement, is a constant moment of

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<sup>170</sup> Stephen Heath (1979), 'The Turn of the Subject', p. 39.

exchange and circulation and non-identity: 'I' always joins 'me' to language anew, in difference) and then of its strategies of identification, a point of the insertion of identity (precisely 'I' serves to mark 'me', my (self-) possession). The ego is the function of the subject as identity, the reality of its identifications, the subject as **object**: 'the ego is an object — an object which fulfills a certain function that we call the imaginary function.'<sup>171</sup>

The centring and spiralling density of Heath's prose is akin to any subject rocked into the rhythms of language and meaning. However, while psychoanalysis makes reference to the variability of representational practices in subject-formation by use of the term 'signification', the continuing emphasis on language in psychoanalysis does not make explicit enough the protean qualities of the codes available to the electronic construction of subjectivity.

To produce such highly variable and multitudinous forms of electronic information requires an artist fully versed in the jurisdiction of the unconscious. 'The unconscious' (as well as being a data-warehouse for recording a subject's *lifetime*), 'is ...

a flow and a desiring machine, the human being a system of couplings, with which s/he can couple onto, and uncouple from, continuing processes: "Now what?" — "So that's what that was" — Now what?" — these are the questions and stations of desire.<sup>172</sup>

From the viewpoint of electronic production, the specific element of this flow is 'epistemophilia' — the desire (and in an information-rich economy, this desire is

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<sup>171</sup> *ibid.*, p. 36. [Bold in the original].

<sup>172</sup> Klaus Theweleit (1987), *Male Fantasies: Women, Floods, Bodies, History*, trans. by Stephen Conway, in collaboration with Erica Carter and Chris Turner, Polity Press, Cambridge, p. 255.

easily concentrated into a lust), for the accumulation in (the) un/conscious/ness of any symbolic material amenable to incorporation in the pixel↔wisdom continuum.<sup>173</sup> The unconscious may hold out on giving up its information, but it is aesthetic desire that seeks it out. And epistemophilia can apply to codes as well as content.

Desire also helps to unmoor the subject from tradition, or at least the way tradition might be consolidated in language. This is a process on which Eagleton indirectly elaborates:

Desire is purely impersonal, a process or network without end or origin in which all three protagonists [father, mother, offspring] are caught up, yet which stems from none of them and has none of them as its goal.<sup>174</sup>

Unhinged from the spoken and linguistically known universe (in the guise of parents, Church, or the State), and hooked onto the living and variable representational practices encompassed by electracy, the self is in a deliriously heightened state of sensate informational intoxication. Desire, as a border-line, but fluid phenomenon of sometimes errant stasis, and a continuous series of entries, meanderings and exits, is now the oscillating barometer of how electronic knowledge is utilised by a subject producing both itself and its artworks.

‘Freedom of expression’ is viewed, in the West at least, as a right and obligation, situated firmly within each and every body, although in practice not

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<sup>173</sup> Zoë Sofia (1993), *Whose Second Self?: Gender and (Ir)Rationality in Computer Culture*, Deakin University Press, Geelong, outlines the history, and increasing importance of this idea, see especially pp. 59-64. Of course, Sofia is referencing ‘computer culture’ but the idea equally applies to electronic culture. In any case, both cultures can increasingly be looked upon as one entity.

equally. Implied in this political rhetoric is a 'freedom of *all* the means of expression'. A production-orientated subject must have 'free' access to a multitude of representational practices in a knowledge economy. Desire remains an important engine room in subject-formation, to the extent that we require these multiple forms of representation simultaneously, as another way of embodying this 'freedom'.

This desiring flow accumulates any remnant of this vast epistemological picture in a sometimes indiscriminate bower-bird like way (this is where *research* is an essential component of *yearning* in the epistemophilic). The possible ordering of this material is structured through a range of narrative possibilities, generic conventions, marketplace protocols and expectations, technical possibilities and limitations, philosophical doctrines, audience awareness, aesthetic aspirations, along with real political and cultural conditions. The urge to coherence in sifting through data is a sort of mopping up of the intensely felt sensate aspect of aesthetic production and is an important component in the construction of subjectivity. This is the psychic condition of the artist in the act of imagining and producing an artwork.

It is this intensely felt, corporeally based, sensate nature of the (electronic) artist that John Frow skirts around when he says:

The case of the original work of art is ... complex in that its value does not arise directly from, and is not equivalent to, the labour expended in producing it; rather, its value relates to the entire system of aesthetic production and to a *particular fetishization of aesthetic labour*.<sup>175</sup>

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<sup>174</sup> Terry Eagleton (1990), *The Ideology of the Aesthetic*, p. 278.

<sup>175</sup> John Frow (1991), *What Was Postmodernism?*, Local Consumption Publications, Sydney, p. 40. [My emphasis].

The sensate quality of aesthetic production, close to *felt* life in general, is an important aspect of this fetishisation. In the electronic artist, the infinite permutations of the entire body of knowledge, in its multiple number of codes, are overlayed on the sensate/technate quality of electronic production. An increasing awareness of this compounding number of codes available to un/conscious/ness, and the limitations language places on its aesthetic expression, have given rise to an urge for an extended understanding of the self through the aesthetics of electracy.

## **Representational Synaesthesia**

Electracy, as the informational ambience in which subjectivity is formed and continually reformed, takes on board this singular linguistic code and pluralises it. There cannot now be just a single representational system in the construction of subjectivity, if there ever was. The subjective 'I' must, both of productive and psychic necessity, *realise* itself in the cross-currents of representational forms. Specifically, this is an idiosyncratic combination of the literate, the oral/aural, visuality, the performative, of the technate and the gestural, and even graphicacy, (an advanced skill in the layout of the various codes on the screen), just to mention a few examples.

It is here that we can return to Gunther Kress' idea of the 'multimodal'. 'Multimodal' is a work's ability to juxtapose differing communicative modes. More importantly, Kress goes on to say:

A new theory of semiosis will have to acknowledge and account for the processes of synaesthesia, the transduction of meaning from one semiotic

mode in meaning to another semiotic mode, an activity constantly performed by the brain.<sup>176</sup>

It is through these three fields: the multimodal nature of electronic works, synaesthesia, and the *body* of knowledge-formation (in its corporeally constituted architectonics), that we might start to think about how subjectivity can be framed through electracy, and vice-versa.

Electronic codes of production and consumption psychically reproduce in subject-formation/production, what might be called *representational synaesthesia*. This is a cognitive process that takes as its object a whole plethora of representational pathways occurring both *in* and *between* signifying systems, and whose defining moment comes at a given moment of production or consumption. Synaesthesia, narrowly interpreted according to a Macquarie Dictionary definition, means 'a sensation produced in one physical sense when a stimulus is applied to another sense, as when the hearing of a certain sound induces the visualisation of a certain colour.' In this interpretation, synaesthesia is both a clinical condition and a psychic phenomenon.

Strictly speaking then, the concept of synaesthesia should not apply to electronic artworks at all; rather, it is part of the cognitive apparatus of the body. However, there is a sense in which aesthetic production utilises the term metaphorically.<sup>177</sup> While Greta Berman indicates there is a question mark over using the term in this way, the fact that *Leonardo* (a pre-eminent journal in the discussion of electronic aesthetics), has an on-going debate around the idea is an indication our understanding of the term may be changing.<sup>178</sup>

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<sup>176</sup> Gunther Kress (1997), 'Visual and Verbal Modes of Representation in Electronically Mediated Communication: The Potentials of New Forms of Text', pp. 73 & 76. [Although Kress uses the term 'semiotic mode', I prefer the term 'code' to describe a particular representational domain, images, for instance].

<sup>177</sup> Greta Berman (1999), 'Synesthesia and the Arts', in *Leonardo*, vol. 32, #1, pp. 15-22.

<sup>178</sup> For more examples of this debate see John Harrison & Simon Baron-Cohen (1994), 'Synaesthesia: An Account of Coloured Hearing', in *Leonardo*, vol. 27, #4, pp. 343-346; Susanna Niederer (1997), 'Dreiklang: Word, Sound, Image', in *Leonardo*, vol. 30, #3, pp. 207-211; Crétien van Campen (1999), 'Artistic and Psychological Experiments with Synesthesia', in *Leonardo*, vol. 32, #1, pp. 9-14. [*Leonardo* seems to spell the keyword two different ways, with no comment as far as I have read].

Synaesthesia (considered as an alliance of both the psyche and representation in a variety of cross-pollinating abstractions) clearly has a relationship with the processes of synthetic reason. While a range of disparate facts can be framed by synthetic reason; electracy, viewed through the lens of representational synaesthesia, also requires an ability to work among the highly differentiated codes of representation in its domain. Further, as a cognitively located clinical condition, synaesthesia is also an apt metaphor given the body's centrality in aesthetic production, making it an important linkage between these differing codes.

In this context, *synaesthesia* — the clinical/cognitive condition — can be transformed into representational synaesthesia, and redefined as electracy's mode of juxtaposing and 'transducing' the various semiotic codes of meaning in its productive apparatus. It is a term suggesting a correlation between the body's ability to instantly navigate a representational pathway in a highly variegated symbolic milieu. It also makes clear the constant corporeal effort needed to take conscious note of this passing parade of data, of all the sensate 'facts' of experience, both in thinking and action. The sum-total of the electronic symbol-world, and the aesthetic tendency of self-production, are constantly 'transducing' each other.

As a psycho-biologically grounded concept, representational synaesthesia is the capacity of un/conscious/ness to integrate the informational extremities and diversities of the pixel↔wisdom continuum into its productive framework. And if



this electronic data-revelry can be intra-, and inter-connected in the symbol-world, there is also an analogue in the body itself:

The nervous system is [also] comprised of a vast network of identically structured neurones — like horizontal Ys webbed together — each of which is connected to three other neurones. These neurones form a system insofar as the energy received at one end of the neurone must be discharged at the other end, through a bifurcated choice of pathways.<sup>179</sup>

If the connection here is an easy one between representational synaesthesia and the body's neuronal network, the complexity of these two multiplex messaging systems undoubtedly mirror each other. In aesthetic production they come face to face with each other. The fit between these two entities (the body and the symbol world) is a space where the epistemophiliac works best. It is a site of an intensely sensate informational intoxication, yielding an even more concentrated search of the pixel↔wisdom continuum, as much as any answer to a given aesthetic problem. This libidinally charged moment is where corporeality and representation meet on the most intimate of terms. To further understand representational synaesthesia will require artists (and media educators) to more fully understand how the body's psycho-physiology is configured. This particularly applies to its neural network.<sup>180</sup>

This wholesale fluidity in the practices of knowledge production (both in the codes used, and in the psyche), is both the result and the cause of representational synaesthesia. It is an area of both aesthetic and subject formation that allows a psychic freedom of choice, but it is one circumscribed by the historical sedimentation of specific codes. These individual codes usually come to us with some kind of syntactical structuring already in place. Syntactical coherence is that given configuration of 'rules' or 'conventions' inherent in any given code. A

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<sup>179</sup> Elizabeth Grosz (1994), *Volatile Bodies*, p. 49.

<sup>180</sup> It seems to me neural networks, as a form of knowledge, models itself on the brain's workings. See, for instance, the section on how the eye is a fuzzy system, in Raúl Rojas (1996), *Neural Networks: A Systematic Introduction*, Springer-Verlag, Berlin, p. 306-307.

synaesthetically configured set of codes (between voice and colour for instance), certainly lacks a frame for any inter-syntactical understanding at the moment.

The problem here is that these rules and conventions are less obvious *across* and *between* codes. For instance, what is the relationship between words as they are overlaid on images? This shift, from a more strident set of rules and conventions governing syntactical coherence in a single code (in language, and some forms of visual literacy for instance), to more 'open' forms of aesthetic structuring in electronic artworks has come about under the pressure of representational synaesthesia.<sup>181</sup> While it is impossible to articulate a set of inter-syntactical 'rules and conventions' for a representational synaesthesia here, it is this very lack that has produced this 'openness' in electronic aesthetics. And instead of arguing which is better (word, image or sound), generally speaking electronic artists have tried to heuristically understand this inter-syntactical structuring for themselves.

This process of a psychically based representational synaesthesia as a condition of electronic aesthetic production will, no doubt, require further illumination. As a process though, representational synaesthesia seems to confirm Toby Miller's remark that '[under postmodernism] value is defined not by the use- or exchange-value of a sign but by an omnidirectional radiating force that refers to objects or processes via a momentary contiguity rather than a recognised system of referentiality'.<sup>182</sup> Any recognised form of referentiality — for instance, subject-formation as a product of language — is slowly giving way to the epistemic/ontological/axiological fluidity, both centripetal and centrifugal in

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<sup>181</sup> For an overview of how an 'open poetics' might be conceived see, Umberto Eco (1989), 'The Poetics of the Open Work', in *The Open Work*, trans. by Anna Cancogni, Harvard University Press; Cambridge, Massachusetts, pp. 1-23.

<sup>182</sup> Toby Miller (1993), *The Well-Tempered Self*, p. 44.

electracy, as it pertains to both subject-formation, and the production of knowledge more generally.<sup>183</sup>

It might well be representational synaesthesia that forms the arena in which a majority of us live our 'uncompleted' lives; that is, as a life always lived *between* codes. Rodney Hall puts this imperishable process of interminable subject-making more simply:

The most exciting thing in life is to be a new adult. Just that. It is making a person for oneself. Taking who you thought you were and creating someone as close as possible to a person you would like to be. The risk (whether failing or succeeding) is surely the climax of what we know.<sup>184</sup>

It is this psycho-microbial second-by-second, minute-by-minute, hour-by-hour, day-by-day operation that best suits electronic manifestations of subjectivity and is thus the very foundations on which electracy is built. If traditionally orientated oral societies based their informational incorporation on mythological and/or spiritual entities fixed over generational time-spans, and literate traditions based themselves on stable, State sanctioned formations of information and knowledge, then electracy is sealed in the neurally effervescent design structure of the corporeal apparatus, using a fluctuating set of codes to 'know thyself'.

Electronic artists, along with a whole host of other aesthetically grounded knowledge workers in newspapers, graphics, television lighting, feature-film

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<sup>183</sup> Deborah Haynes, Mike Mandel and Rita Robillard, stake out a plan to utilise these three philosophical domains: epistemic/ontological/axiological, as the basis for transforming electronic media education so that universities turn out media philosophers, as much as media practitioners. Equally instructive is the fact that these educators come from a visual arts background. See their (1998), 'Curriculum Revolution: The Infusion and Diffusion of New Media', in *Leonardo*, vol. 31, #3, pp. 187-193.

<sup>184</sup> Rodney Hall (1998), *Captivity Captive*, p. 155.

production, radio, web-site design, for instance, are inculcated within this increasingly important mode of sensorily orientated electronic production. At the psychic level at least, the production factory is now as much a corporeal entity as it is a material one. In this subliminal process of producing *and* consuming, electronic artists are,

bodies [that] are fictionalised, that is, positioned by various cultural narratives and discourses, which are themselves embodiments of culturally established canons, norms, and representational forms, so that they can be seen as living narratives not always or even usually transparent to themselves.<sup>185</sup>

Furthermore, producing bodies form an essential node in the circularity (that is, the interpretation, incorporation, and regurgitation of those 'narratives and discourses') endemic to metaphysical systems of all kinds. The electronic artist is the prototypical consumer of *all* and *sundry* knowledge systems. The artist *houses* these systems, and their specific content, along with a whole host of others, in its libidinal apparatus. This psychic content, in turn, forms the raw material for future productions.

The whole collection of codes in electracy form an inextricable skein: for electronic meaning's sake they, all of them, rely on each other, even if some codes are not in productive use at times. These codes, and the *body/brain*, are electracy's architectonic workshop, its mythological deity, and its mode for the collectivisation of wisdom and stupidity. As in all of human history, we are limited by our capacities, and in this case it is our corporeal and aesthetic ones.

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<sup>185</sup> Elizabeth Grosz (1994), *Volatile Bodies*, p. 118.

Finally, the relationship between the aesthetic impulse and the cognitive/synaesthetic apparatus is clear: the interdependence between the various codes of meaning in an electronic artwork can have a significant affect on our ability to more fully understand it, in literate parlance ‘how to read it’. Indeed, perhaps the most significant metaphysical conflict of the current era is that we are using a literate frame of understanding to produce and decipher electronic artworks. To my mind, the bland use of talking heads in current-affairs programs like *The 7.30 Report* is a good example of this latter point. Maybe a more detailed understanding of electracy will help confront this problem.

Without active sense interpretation, explanation, grounding and regurgitation in the body, abstraction amounts to nothing. Now, with this partial introduction to **Radial-LogiC**® complete,<sup>186</sup> I can now turn to the imagined totality of the codes available to electracy, because when they come face to face with the human sensorium in the act of production, the synaesthetic skein of electracy moves into action. Electracy, *in medias res*, legitimating subjective enthrallment in a panoply of codes.

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The concentric, 360° nature of this kind of logic also has an echo in The New London Group’s outline of a interconnected circular diagram used to illustrate their multiliteracies program. See their (1996), ‘A Pedagogy of Multiliteracies: Designing Social Futures’, p. 83. Also, the logo design and copyright symbol are here used to indicate how immaterial ideas can themselves enter into property relations.

# THE SYNAESTHETIC SKEIN OF ELECTRONIC PRODUCTIVITY

Art instructs us in the profound truth of how to live superficially, to halt at the sensuous surface rather than hunt the illusory essence beneath it. Perhaps superficiality is the true essence of life, and depth a mere veil thrown over the authentic banality of things.<sup>187</sup>

Terry Eagleton

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<sup>187</sup> Terry Eagleton (1990), *The Ideology of the Aesthetic*, p. 258.

## Introduction

Like a skein of yarn, the following diverse array of skills, techniques and knowledges utilised in electronic production (at once aesthetic, political, economic, cultural, technological ... ), inexorably wind the artist-subject into and through the productive act. Simultaneously, they are a form of self-production, and less directly, community-making. Collectively, they form the limit for the realisation of artistic possibility in electracy. This bonding comes about in the interminable determination of producers to marry these diverse skills, techniques and knowledges to content, thematic, narrative, political and/or cultural concerns. When this occurs successfully, a polished electronic art-object is said to 'work well'.

The problem with this seamlessness of the art-object is that the actuality of the productive act is sometimes effaced, wiped clean, under the rhetoric of big picture categories like 'individual artistic genius', or 'originality'. More perversely, there is a view that says electronic art-objects are just another anodyne feature of the consumptive paradise of postmodern life. Either way, the art-object sheds any knowledge of its productive process and circulates as an unquestioned narrative, and/or as an object of cultural criticism. While electracy may be an open productive process, it is certainly not limitless.

As a product of the heart and mind, body and soul, and its subsequent materialisation as a commodity, the electronic art-object dematerialises for its maker at the precise point of its completeness, its movement into the chain of marketing, distribution and exhibition. This is a sale-point of the productive psyche, the point

at which art-object reaches its audience. At the collective consumption point of the art-object, this process *moves* an array of conceptual forces through, and is intertwined with, various relations of power. In other words, this collection of production skills, techniques and knowledges is the conceptual architecture of this larger macro-movement, moving electronic knowledge, in its vast range of manifestations, through the system. The communicational dynamism of electracy helps in giving capitalism itself an illusion of the life force of change.

Personnel in educational institutions have introduced a great many practitioners in electronic aesthetics to some of these skills, techniques and knowledges. As well, co-workers and self-instruction have contributed their share to this pool of collective knowledge. Practitioners, of course, vary greatly in their differing knowledge of the possibilities of electracy. What I have attempted to list in the following is partly a result of my own electronic production practice, combined with my viewing/listening history, as well as my reading in ideas. Indeed, the term 'synaesthetic skein' can refer to the on-going accumulation and amalgamation of the above, as well as the highly variable number of skills, techniques and knowledges able to be synthesised in electracy. In many of the cases listed I have had some production and teaching experience, even if only a minuscule amount.

This is not to say the following exposition is an exhaustive one, or my own knowledge of the electronic production process is extensive. It is rare, if not impossible, for one person to be conversant with all aspects of production within such a large arena as electracy. Much more research could be devoted to any one of the following categories. My objective is to present a possible totality of skills, techniques and knowledges applicable to electronic production, and foreground the



ways in which the resultant synaesthetic skein winds all of its components into The Finished Work.

The following priority in the listing of the differing categories is not meant to imply a sense of hierarchy. If a hierarchy is to be imposed on these examined categories, that priority might be determined by a particular artist operating in the field, or possibly by the breakdown pre-production, production and post-production, even commercial considerations might come into play. It should be kept in mind this overview is a simple introduction to what could be included in a synaesthetic skein of electronic production. It is not a definitive account by any interpretation.

The fields from which these aesthetic modalities come from are diverse as well. Media, music, technology studies, cinema, fine arts, writing, sound studies, telecommunications, cybernetics all in some way make a contribution to our of understanding electracy. Clearly, the categories are not all equal, but their hierarchy is established in the context of a specific productive act or overall project. The nature of this context differs with each production, a fact which is itself a significant attraction to electronic artists.

These practices, then, are simultaneously abstract and material. As a result, they are more thoroughly imbued with both psychical and technical concerns than previous productive epochs like the Fordist 1920s, or more agrarian modes of production, for instance. Electronic production, as earlier hinted, can be generally classified under the rubric of Post-Fordism, a key aspect of which is *communication*

which comes at the expense of the *command* principle, the latter a feature of the Fordist mode of production.<sup>188</sup> Electracy clearly illustrates the emergence of communicative skills, techniques and knowledges at the very heart of the production process, not merely one of its organising principles.

The command principle may allow a certain automaton appearance to crystallise in the working subject. In its turn, the communication principle locates an active, thinking subject as a given in the production process. Within aesthetic modes of production then an agile and intimate knowledge of the formal operations of electronic communicative practices is crucial to the ongoing struggle of *becoming* at a political, economic, cultural, social and psychic level. The days of merely being told what to do by the boss have been transformed by Post-Fordist production protocols. It is even possible that an advanced knowledge of electracy creates the impression you are your own boss. This is a large-scale Master of the Universe neurosis.

There is, however, the Krapp Alternative: Samuel Beckett's masterful play *Krapp's Last Tape* is set in 'a late evening in the future'.<sup>189</sup> The only character — Krapp, is transformed and trapped by a heightened state of pathological melancholy as he sits down at his desk and reviews various versions of his life as he has recorded them on audio-tape over the preceding years of his life. His existential despair is palpable as he reviews his electronic memories, vehemently arguing with these previously recorded versions of himself.

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<sup>188</sup> Michael Rustin (1989), 'The Politics of Post-Fordism: or, the Trouble with 'New Times'', in *New Left Review*, #175, (May/June), p. 56.

<sup>189</sup> Samuel Beckett (1970), 'Krapp's Last Tape', in *Krapp's Last Tape and other Dramatic Pieces*, Grove Press, New York, p. 9.

Electronic production is also a trace, however faint, of a failure to *become*, because it is itself a process in a constant state of *becoming*; electracy is after all a system without too many fixed rules, another manifestation of fuzzy logic.<sup>190</sup> The increasing popularity of electronic production marks this constant-state of *being in perpetual becoming* as, simultaneously and separately, a source of neurosis and ecstasy. It is possible to imagine *Krapp's Last Tape* as a computer game, as a maze of an endless electronic melancholy.

In the following, a quite liberal view is taken of production practices in terms of their inclusion and categorisation. If command capitalism was predicated on the idea that the ruling class were the ones with the ideas, then a Post-Fordist, globalising capitalism is predicated on the idea that *all* classes can at least *have* ideas, indeed they must be *taught* to do so. More importantly, this glut of aesthetic sources should be made available to the socio-economic impulse in the pursuit of accumulation and thus surplus value.

In these circumstances then it is important to consider the fact that the range of aesthetic tools and concepts available to the artist-subject in electracy is itself indeterminate, under a terminal state of negotiation and re/definition. Electracy is a much more speculative meta-structure than its still influential precursor — literacy. Categories could be added and/or taken away on a continuing basis.

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<sup>190</sup> Cf. 'However, fuzzy systems do not usually lead to very deep networks. Since at each fuzzy inference step the precision of the conclusion is reduced, it is not advisable to build too long an inference chain.' See, Raúl Rojas (1996), *Neural Networks*, p. 304.

## The Economic Skein

Without any ambiguity whatsoever, electronic production is capital and labour intensive. Like all artists, electronic producers are faced with the task of raising money. Depending on the type of production involved, raising finance is a substantial time-consumer in the productive act. However, while traditionally artists generally have given filthy lucre a wide berth (preferring to let agents take care of the business end of artistic production), for the most part electronic producers are intimately involved in the creative process from start to finish. Sometimes a producer may even dream up an idea and then employ writers, directors, technicians, etc. to realise it. It is this thorough going involvement in the economic aspect of production that marks electracry out. Every creative decision has a price tag to be reckoned with.

More traditional forms of aesthetic production sometimes took it for granted that culture was above the domain of commerce. This, naturally enough, was a form of self-delusion, for whilst 'Culture, including high culture, is routinely transfigured into cultural value', this deception excluded the fact almost any human activity could be categorised under 'culture', including economic activity.<sup>191</sup> This highly malleable view of cultural production allows 'low', 'popular', 'ordinary', or 'everyday' cultural products to be more easily transformed into electronic art.

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<sup>191</sup> Vincent P. Pecora (1988), 'Simulacral Economies', in *Telos*, #75, (Spring), p. 136.

In electracy, the 'dumbest', the most 'inconsequential' sound, word, or image can assume significance, sometimes in proportion to its 'low' cultural value, but also in relation to unpredictable, sometimes unknowable forces that the arbiters of culture previously may have left wasted. In effect, electracy's embrace of the whole gamut of culture as source material, not just its 'refined' or 'civilising' elements, brought the filthy lucre of the marketplace face to face with electronic artists themselves.

Also, keeping in mind the continuing relevance of kitsch, it is sometimes because of its 'low' value that the 'dumb' and the 'inconsequential' achieves greatness. The growth of electronic media over the course of the 20<sup>th</sup> century has consolidated this process of an electronic folk-art emerging out of cultural obscurity into the economic light. Oral histories, recorded on either or both video- and audio-tape, are a part of this process; while at the same time, the broadcast industry's insatiable demand for *product* is a significant force propelling this charge into the ordinary and the everyday. The pursuit of 'newness' is feverish in the production and consumption of electronic information.<sup>192</sup>

Electracy thus brings into brighter cognitive sharpness the dialectical interplay between aesthetic and economic value. Electracy, as a set of skills, techniques and knowledges as well as a cognitive framework for production, has generally grown to be gradually positioned by its producers and consumers as a 'translator and mediator' between these two mentioned (at least, but usually more) realms of value.<sup>193</sup> In the multitude of commodities arising out of labour skills

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<sup>192</sup> For a sociological analysis of this question of 'newness' see, Colin Campbell (1992), 'The Desire for the New: Its Nature and Social Location as Presented in Theories of Fashion and Modern Consumerism', in Roger Silverstone & Eric Hirsch (eds.), *Consuming Technologies: Media and Information in Domestic Spaces*, Routledge, London, pp. 48-64.

<sup>193</sup> This idea arises out of Patricia Zimmerman's (1986), remark that: 'The photograph or home movie, frequently accompanied by a first person narrative from its maker explicating the intention, functions simultaneously as a cultural trace or clue and as a translator and mediator between the social and linguistic rules of a given culture and participants'. See her 'The Amateur, the Avant-Garde, and Ideologies of Art', *Journal of Film and Video*, vol. 38, #3/4, p. 65.

based on electracry, notions of aesthetic value (beauty, truth, morality, taste, etc.) are profoundly intertwined with economic value (use-value, exchange-value, and surplus-value).

This synthesis of economics and culture is further complicated when consideration is given to 'the mental labor problem.' Andrew Ross argues that:

... the cultural labor problem figures primarily as the challenge of maintaining a steady supply of workers willing to discount the price of their labor for the *love* of their craft.<sup>194</sup>

This 'love of the craft' has significant economic and aesthetic ramifications. From a professional point of view (generally, the people *paid* by media organisations), the designation 'amateur' fastens low value to productions emanating out of this enclave. From within the amateur field, a mixture of awe and distrust of the 'professional' — also the arena where high aesthetic value is generally configured — has helped breakdown the opposition 'amateur' and 'professional'.

From the 'professional' field, there is now a recognition (both grudging and celebratory) of the production and consumption of popular modes of electronic memory via the camcorder, community radio, VCR, and increasingly, digital video, MP3 and the WWW. While at the corporate level, the amateur remains 'marginal' at best, its importance at the level of aesthetic discourse has been increasing over the course of last century and on into this one. Along with the increasing importance of volunteer labour, this spare pool of electronic artists serves an important economic function in the globalisation of capitalism.

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<sup>194</sup> Andrew Ross (2000), 'The Mental Labor Problem', in *Social Text*, #63, (Summer), p. 6. [My emphasis].

A generous pool of practicing but largely un/der/paid amateur and semi-professional artists is now crucial to free-market principles of labour organisation. These principles dictate that it is necessary to have a large body of workers trained, and/or continually in education, to serve as a labour-pool from which to choose, and out of which a continual stream of 'new' product might emerge. And it is here the burgeoning number of graduates from courses in communications, media, and information technology have played their part.

This increasingly non-unionised workforce is a necessary adjunct to the proliferating number and variety of commodities produced under the auspices of electracy. From ads, banners, press releases, through pornography and cat-scans, to sit-coms and holography, the variety of electro-commodities is astonishing.<sup>195</sup> Repackaging and/or re-badging of singular commodities — a movie for instance — into a video game, a TV series, or website, aid this proliferation. This apparently easy proliferation of both an electronically focused workforce, and the resultant commodities, reminds us again of the interrelationship of economics and biology (not so faint), and their connections to aesthetics and capitalism.

The reproductive urge of the Labour/Capital/Commodity Flow is now not merely material but also, and with increasing acceleration, encompassing the symbolic and the imaginary as a means by which this reproduction takes place.<sup>196</sup> Electracy (as represented in the skills and knowledge of the workforce, and the commodities it produces) is now a major conduit through which the reproducibility of capital has expanded in relation to the material, *and* the immaterial. And Ulmer's already mentioned term — 'network associational' — is a means to describe this

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<sup>195</sup> For an account of German artist Dieter Jung's holographic work see, Frank Popper (1995), 'The Artist and Advanced Technology', in *Leonardo*, vol. 28, #1, pp. 28-29.

<sup>196</sup> This remark is taken from my reading of Karl Marx's (1954), *Capital, Vol. I*, especially chapter 3: 'Money, or the Circulation of Commodities', pp. 97-144. This triumvirate is akin to the Mommy-Daddy-Me triangulation in its urge to re/produce.

abstract bio-economic process. It relies on our cognitive ability to witness *and* experience interconnectivity (of the labour force, of commodities, of the aesthetic, of everything) as all. Electracy, as a system of electronic abstraction, is now in an intimate and evolving trinary relationship with biology and economics.

This bio-economic view is further consolidated if the actual geographic site of electronic production and consumption is investigated. The factory, as the traditional Fordist site of production, is now the self *and* the home; a significant shift in the location of capitalism's productive heartland.<sup>197</sup> Bilwet Adilkno bitingly refer to this process in the following way:

At home we are experiencing a science-fiction invasion: the space ship is ensconcing itself in the living room and the feeling of being on a virtual trip through space imposes itself.<sup>198</sup>

From this viewpoint, the self/home lays an emphasis on *production in the home*, and in the process has made the 'media room' a sometimes mandatory addition to the modern domicile.

That spaceship ensconced in the self/home is the pleasurable presence of the symbol-world itself, willingly brought in via electracy as much as in the domestic electronic technologies that serves as their conduit. And as John Berger hints in his review of *ET - The Extra Terrestrial*, this electronic colonisation of self and home means the 'only hope of re-creating a centre ... is to make it the entire earth.'<sup>199</sup> The contraction of the productive space to the self/home is here contrasted with its

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<sup>197</sup> These factories have not disappeared, many have been shifted to less developed countries where labour rates are significantly cheaper. See, Michael Rustin (1989), 'The Politics of Post-Fordism: or, the Trouble with 'New Times'', p. 55.

<sup>198</sup> Bilwet Adilkno (1995), 'Electronic Loneliness', p. 3.

<sup>199</sup> John Berger (1983), 'A House is Not a Home', in *New Society*, 23 June, p. 464.



capitalism's global expansion. A personal laptop computer can now be taken with us when we travel the globe, away from our work-home.

The substantial amounts of money at the heart of electronic production also indirectly serve to remind us of an uncomfortable utopianism about electronic communication.<sup>200</sup> Nicholas Garnham's earlier warning on the libertarian yearnings of video is also pertinent here to the larger frame of electronic production generally:

A host of misconceptions were allowed to cluster around the term video: those who perhaps should have known better on the radical, libertarian, utopian Left swallowed the bait and a far-from-innocent technology became the focus of widespread fantasizing and wish-fulfilment.<sup>201</sup>

While 'fantasizing and wish-fulfilment' are precisely why electracy (and the media more generally) are relevant, it is important to keep in mind the military/industrial origins of electronic technology.<sup>202</sup> These origins can easily get clouded by the "now anyone can make a movie" argument. Nonetheless, economic investment and technological innovation in the military field is a significant foundation on which an economic view of electracy rests.

While this has extensive consequences other than economic, the military-industrial *complex* (as a significant pillar of global capitalism), infuses electracy.

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<sup>200</sup> Cf. 'Money demands constant vigilance. To become poor, one only has to let oneself go. But to enrich oneself requires greed. Our relationship to money demands a tension which is not reducible to any other. It is through money that the Order confronts us. The monetary act is always aggressive.' See, André Amar, *The Psychoanalysis of Money*, quoted by Helen Grace (1993), 'Business, Pleasure, Narrative: The Folktale in Our Times', in Graeme Turner (ed.), *Nation, Culture, Text: Australian Cultural and Media Studies*, Routledge, London, p. 199.

<sup>201</sup> Nicholas Garnham (1990), *Capitalism and Communication: Global Culture and the Economics of Information*, Sage Publications, London, p. 64.

<sup>202</sup> For an articulation of the military/strategic relationship between 'portable video', 'gyrosopes', 'charge-coupled devices (CCDs)', 'night-vision lenses', 'military aircraft and Keyhole satellites' and 'broadcast television', see McKenzie Wark (1994), *Virtual Geographies: Living with Global Media Events*, Indiana University Press, Bloomington, p. 42. It must be noted though that the military/industrial origins of electronic technology are a feature of much theorising in the media area, *Virtual Geographies* is not the only example.

This occurs at both the level of content (in shoot-'em-computer-games like *Diablo*, and in television series like *Jag*, *MASH*, etc.), and in the way the technology is discovered, invented, and produced for the military itself and subsequently adapted for the market. Here, an analysis of the military possibilities of night-vision lenses would be required, not just an aesthetic analysis of the kind of images it might produce.

And lastly, it is in this economic skein that electracy alerts us to the poetry of numbers, in the totalisation and subtraction of columns of money in a spread-sheet, all in the pursuit of an aesthetic goal. The kind of numeracy skills necessary to bookkeeping are also tried out in the aesthetic arena as well. Syncing is a matter of pulling together various time-based aesthetic modalities like sound and image. The regulation and keeping of time and money, as productive activities, are hard won economic skills.

## **Inspiration and Creativity**

A specific component of artistic production that most resonates in John Frow's already mentioned remark about the 'particular fetishization of aesthetic labour' is the originating mythology of the creative instinct. While Walter Benjamin may have raised the question of the disappearance of the aura in the mechanical work of art, subsequently, this aura has sometimes been transferred to the body of

the artist.<sup>203</sup> Stars are the most obvious example of this inscription, but 'aura' persists in the pervasive adulation of various producers, directors, camera-people, editors, and screenwriters.

While physical attributes may be partly responsible for this transference of aura from work to producer, the myth of cerebral illumination surrounding inspiration and creativity is also an important factor. Subjective inspirational insight has been reified in the Western aesthetic tradition. Certainly this process continues in electronic modes, but there is evidence to the contrary: some TV programs rush through their credits at a speed at which they cannot be read.<sup>204</sup> More interestingly, it is the psychic intensity of the creative act that might be a clue to understanding this aura.

As a borderline psychic category, the creative act is both a dangerous and a sensuous one, full of a ragged madness and cloud-walking euphoria. It is this intense psychic contradiction/condition of creativity, sometimes manifested in the work, which is central to understanding the nature of aesthetic production. Whether the consumer knows the name of the maker or not we are instinctively in awe of creative act. As in most discourses, a *Proper Name* can sometimes determine the course of a narrative, its consumption and reception. Nonetheless, while a concertina of Proper Names may come and go, 'creativity', 'inspiration', and 'originality', remain largely because of this psychic intensity. When the 'ah-ah' moment dawns, a shift in consciousness is the inevitable result, and not just for the

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<sup>203</sup> Walter Benjamin (1969), 'The Work of Art in the Age of Mechanical Reproduction', in *Illuminations*, trans. by Harry Zohn, Fontana, London, p. 221.

<sup>204</sup> I am thinking specifically here of *The Oprah Winfrey Show*. The host could indeed fulfil the criteria of the *creator* of the show, and if her personal dilemmas are to be believed, she is certainly *of* the show. That is, her own psyche mirrors the problems the content of the show sometimes displays. This has almost certainly intensified her 'aura'. Also, for an overview of how identity is constructed in talk-shows of this kind see, Jane Landman (1995), 'The Discursive Space of Identity: The Oprah Winfrey Show', in *Metro Magazine*, #103, pp. 37-44.

maker of that production.<sup>205</sup> Electronic aesthetics is grounded on a lightning speed renewal of creative ideas ('ah-ah' over, and over, and over again), this makes it a perfect fit with the short life cycle of the modern commodity.

The creative skills underpinning electracy have contributed significantly to the consolidation of a reverence for, and an incremental awareness of, the very ordinariness of the creative act. Massive changes in consciousness have largely augured the postmodern period. Creativity, normally considered a rarity, is also in the slow process of democratisation. This may be because grappling with large-scale changes in gender, race, globalisation, shifting economics etc., has required a creative response rather than an authoritarian one. Just in order to live now requires a creative mandate.

If two important elements of creativity are its 'pattern-making' and 'cyclical' abilities, its affinity with electracy is clear.<sup>206</sup> The postmodern attraction of creativity is as much about an attraction to a vehement indeterminacy as anything else. Electracy places as much emphasis on the iconography of the artist (in Byron Bay, for instance, the number of people claiming to be artists is alarming), and a kind of terminal occupancy of the creative process itself. This sometimes leaves the aesthetic commodity more as an object of constant cerebral attention, of something to *think* with. The networking possibilities of electracy have a boundless number of unfinished productions in its orbit.

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<sup>205</sup> Lucian Goldman (1976), draws out the importance of 'potential consciousness' in both production and consumption in his essay, 'The Importance of the Concept of Potential Consciousness for Communication', in *Cultural Creation in Modern Society*, trans. by Bart Grahl, Telos Press, St Louis, pp. 31-39.

<sup>206</sup> Mark von Wodtke (1993), *Mind Over Media: Creative Thinking Skills for Electronic Media*, McGraw Hill, New York, pp. 114 & 116.

Lastly, the question of creativity in electronic modes of production can cast some light on the means by which the results of that creativity are expressed. The specific question in this regard is this: What language/s, or more accurately, what meaning systems are used to help realise these inspirational impulses? From a psychoanalytic point of view it might be inferred this process is managed linguistically — words are the way to psychically manifest a creative realisation. But when a range of codes are available as a means of expression, so too are varying power arrangements.

Certainly power arrangements are important, but even the world of physics, the most stringently abstract of disciplines, is not immune from the word/image dilemma. The following is a remark from Albert Einstein on his own creative process:

The words or the language, as they are written or spoken, do not seem to play any role in my mechanism of thought. The psychical entities which seem to serve as elements in thought are certain signs and more or less clear images which can be “voluntarily” reproduced and combined.<sup>207</sup>

While John Cage and Philip Glass may have something to say about the use of sound in this creative matrix, the divide set up between words and images decreases in relevance as the influence of electracy continues to expand.

While the relationships among the various codes is a vexed area of both theory and practice, the point remains a student of electracy must be cognisant of a wide range of codes. Also, an interest in the intensive ambiguity of their inter-syntactical structures, and how these interact with the creative instinct itself, would be helpful. People competent in electracy will need an advanced understanding of

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<sup>207</sup> This remark by Albert Einstein was in response to an enquiry from Jacques Hadamard. See the latter's (1954), *The Psychology of Invention in the Mathematical Field*, Dover Publications, New York, p. 142.

the relationship between technology and creativity. These skills are necessary to fully utilise the creative possibilities of the electronic domain.

## Research

At a superficial glance the concept of *research* sits uneasily in electracy. This is an exclusion at once deliberate *and* innocently overlooked. As a category of knowledge production usually considered outside academic/scientific/rational discourse, electracy's epistemological naiveté, an adolescent in the field of knowledge production, is one source of this exclusion. More importantly, it has been the peremptory colonisation of research by the largely literate institutional structures representing the above discourses which seems to be the determining factor.

Research is largely a microscopically focused, "data" based aspect of a given project. The slowly encroaching capabilities of electracy, though, are starting to undermine this singular attitude to research as more and more data is transformed from an oral or literate base to an electronic one. This can occur in either a *database* (the highly variable forms of digital storage), and on tape or film etc. As well, the specific locations of electro-data are diversifying out into, for instance, commercial, governmental, private, museum, and gallery domains, amongst others. In the meantime, a proposed program of electracy makes it necessary to look again at what research might mean.

Truly groundbreaking research, of course, uncovers knowledge that has not been archived, or thought of at all before — the Human Genome Project might serve as a useful example here. In all cases though (and in both the literate and electronic arenas) research is predicated on the back breaking bit-by-bit accumulation of a whole multitude of singular “facts”. Subsequent to this is the arrangement of these collected facts into a commodity of some kind: a speech, an essay, a video, a website, a photograph or a movie, among other things.

Beatrice Webb said as much nearly fifty years ago in an appendix to her autobiography, *My Apprenticeship*. Webb emphasised the notion that one fact should be written on one bit of detachable paper. This was so because of,

... the absolute necessity of being able to rearrange the notes in different order; in fact, to be able to shuffle and reshuffle them indefinitely, and to change the classification of the facts recorded on them, according to various hypotheses with which you will need to compare these facts.<sup>208</sup>

The above could be no better description of Hypercard, the famous note taking software developed by Apple. In an elegantly simple idea: one fact, one bit of paper, Webb articulates a literate version of a profoundly digital form of research: any mountain or molehill of separately and singularly inscribed facts can have any ideology or hypothesis entwining them. In electracy, a simple technical and/or conceptual operation can string together any number of singular facts gathered from both solitary and multiple databases according to any predetermined framework, or even a chance idea.

For a researcher schooled in electracy, it is this increasingly mountainous availability of facts — the *data-quantum* of electronic culture — that is the significant factor. There is also a mountainous number of ways *through* these facts. Added to

this is the technical micro-miniaturisation of every singular fact; that is, its transformation into pixels, bits or bytes, elements on the raster grid, or particles of iron on tape, 0s and 1s in a computer.

This large-scale consolidation and minute break-up in the constitution of a fact has led to a situation where the very authenticity of any fact is increasingly called into question. Undermining the level of content also undermines the level of structure, and any research question with a preconceived agenda, an ideological presupposition, or methodological program at its apex can be spotted more clearly. This shift in the nature of research itself has contributed to the undermining of any totalising system of knowledge, and created the ideal conditions for new forms of knowledge to appear (Future Studies, for instance).

There are at least two ways in which electracy can create its own form of research. The first of these is that in the actual act of recording itself. Here there is the illusion of factual documentation happening as 'life' rushes before the lens or microphone. Dziga Vertov's *Man with the Movie Camera* is an important source for this idea. There is a conviction on behalf of producers that a kind of open spontaneity is captured in this kind of documentation — cinéma-vérité, video-vérité, or 'camcorder culture' — might be mentioned as examples that follow on from Vertov's work.<sup>209</sup> This is a variation on the 'life as it happens' argument.

Within this net of knowledge is caught all sorts of 'ordinary' and 'everyday' aspects of the real that could be categorised by what de Certeau refers to as 'an individual mode of reappropriation.'<sup>210</sup> In this conceptually instinctive kind of documentation lies a view of the capricious arbitrariness of everyday life. There is

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<sup>208</sup> Beatrice Webb (1949), 'The Art of Note-Taking', in *My Apprenticeship*, Longmans, Green & Co., London, p. 365. I am indebted to Humphrey McQueen's seminar on note-taking for an introduction to Webb's ideas.

<sup>209</sup> For a critique of 'camcorder culture' see, Jon Dovey (1995), 'Camcorder Cults', in *Metro Magazine*, #104, pp. 26-29.

<sup>210</sup> Michel de Certeau (1984), *The Practice of Everyday Life*, p. 96.



no doubt the videoing of the Rodney King bashing could be considered research; as a single 'fact' it becomes a node for the intersection of a wide range of discourses.

This scattergun approach of electronic research aims itself at a rational documentation of our own intuition (an emotion with no conscious past, no discernible future, but with an overwhelming immediacy in the present). At the same time it is an attack on the sophistry of conventionally researched, institutionally situated, literate reason.<sup>211</sup> This animosity has not stopped various forms of electracy: digital photography, video, web-sites, audio recordings, from becoming an *aide-mémoire* to literate or even oral forms though, as these latter forms themselves grapple with the increasing power of various forms of electronic knowledge.

A second aspect of research in electracy is of a more straightforward historical nature. In what I call the 'shoe-box' mentality of historical research, electracy has a research lineage coming down from discarded letters in the literate tradition. A great deal of research material, especially in its domestic manifestations, is occasioned by people who grab a camera, and with little previous technical or aesthetic experience, shoot a great deal of footage, put it in a shoe-box and, for a period of time, 'forget' about it. This material then languishes at the back of a cupboard and is subsequently brought to light by an inquisitive investigation.

The period of time is important: *time past* is now recalled as *time remembered* by the producers concerned. Because of the *time past* nature of this archive and the footage's accidental/incidental recovery, its stature is elevated. This form of

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<sup>211</sup> Roger Chartier (1989), documents Renaissance animosity, from both the lower and educated classes, to the growing influence of literacy during that era. A similar process seems to be happening now as electracy gathers momentum. See his, 'The Practical Impact of Writing', in Roger Chartier (ed.), *A History of Private Life, Vol. 3: Passions of the Renaissance*, trans. by Arthur Goldhammer, The Belknap Press of Harvard University Press; Cambridge, Massachusetts; London, England; pp. 122-124.

electracy constitutes a certain *period* in a schema of the past, a period sometimes enhanced by the absence of other symbolic material from the period represented, or from other unrepresented periods. In home-video/movie footage, for instance, you can see Proust busting out. *Krapp's Last Tape* also plays out the more sinister dialectic of nostalgia/guilt brought about by what formerly may have been secret knowledge, or simply not available in an electronic form. In the oral phase, *Remembrance of Things Past* relied on human memory, in electracy: record, erase, re-record, possibly then it is ready for storage in the archive.

The discovery of a hidden archive can also constitute part of a broader contact with other kinds of knowledges of the past, be they written, oral, sensory, still pictures, letters, even invoices. This narrative continuum is part of the broader historical and spatial elaboration of subjectivities, families, nations, ethnicities, of cultural and economic groupings, of the wide variety of facts these entities might produce. It is a form of spatial and historical research confirmed in the popular practice of transferring old still pictures, Standard-8, Super-8, and sometimes 16mm footage, to more widely distributed video-tape formats. More recently, the digitisation of a wide range of knowledge forms extends this aspect of research. Each of us establishes a relationship with our own symbolic archive, a clear example of an important form in electracy.

Electronic production, and equally its subsequent recovery and re/reading, is clearly a form, a branch, a line of researchable knowledge. Along with oral histories, still photos, land title searches, public and private records of all kinds, an embryonic electracy is part of the reconfiguration taking place in our understanding of what research means. As the traditional justification for a whole swath of discursive frameworks, research remains the legitimising protocol for the production of all forms of knowledge. Electronic research adds layers of code-complexity to this legitimisation process.

As this transformation takes hold, the legitimacy of electronic research opens knowledge production to a little vulnerability. While literate forms of knowledge have sought to limit their vulnerability by allying themselves to institutional sites, at a very basic level, electronic forms of research constitute the *play* of the psyche, the everyday, of the home itself. In this play, research is not so much about solidified justification, but equally about ambiguity and contradictory stances in relation to available facts. All facts, all data, all ideology, can be matrixed into the infinite as much as boiled down into a cogent explanation.

Research via means of the electronic is then, in a sense, a contradiction in terms. Predicated on notions of literate technologies, and consequently on the mistaken belief that the technology itself would not deteriorate, electronic research precedes primarily from an 'ad hoc' position.<sup>212</sup> Any fact can be juxtaposed with any other fact.

Electronic technologies have also helped to consolidate the mantra of the *keyword*, a linguistic icon whose principal ability is to connect with its exact reproduction in another location. Electracy has instituted the idea research is not so much about finding out the nature and extent of the material available, but *where* it might be located and how access to that material might be adjudicated.<sup>213</sup> The *ad hoc* nature of electronic research, with an overarching emphasis on the moment which produces a form of synthetic logic among disparate elements, proves what has been true of all research: facts are the seed-bed of justification.

Lastly, the above serves as a timely reminder that electracy presents us with not only a wider array of forms from which research can proceed, it also calls into

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<sup>212</sup> For an outline of the concept of the *ad hoc* in traditional scientific method see, Paul Feyerabend (1978), *Against Method*, pp. 93-98. Feyerabend has a bet both ways: the ad hoc is a process used by existing methodologies to contain their own contradictions, as well as emerging methodologies in search of legitimacy.

question the very nature of data collection itself. Swimming in a sea of data we are now more than ever changed by that which we come into contact with. Data collection/collation in electracy is a way of swimming in this abstract sea-of-facts, less hindered by either an hypothesis or a conclusion. The latter, eventually are the tonics, curing the addiction to data by reining it in, by working on it, by working over it, to form a commodity for use in the world.

## Electro-Writing

While Webb may have argued for ‘one fact on one bit of paper’, Freud, on the other hand, was making a comparison between how the unconscious, the preconscious and the perceptual conscious systems operated, and the way the ‘mystic writing-pad’ worked. These devices can still be found in almost any toy store and allow an inscription on a plastic surface which can be subsequently pulled up to make that inscription disappear. On a clean slate a new inscription can be made, and so on ad-infinitum.

For both Webb and Freud, memory is involved: either in exteriorising data in writing it up on a bit of paper, or by filing it in consciousness or the unconscious through the body itself with the aid of some technical prosthesis.<sup>214</sup> The following singularly obvious fact should never be erased: memory is central to all types of

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<sup>213</sup> N. Katherine Hayles (1996), says that ‘With information, the constraining factor separating the haves from the have-nots is not so much possession as access.’ See her, ‘Virtual Bodies and Flickering Signifiers’, in Timothy Druckrey (ed.), *Electronic Culture: Technology and Visual Representation*, Aperture, New York, p. 270.

<sup>214</sup> Freud (1954), also makes the point that, ‘All the forms of auxiliary apparatus which we have invented for the improvement or intensification of our sensory functions are built on the same model as the sense organs themselves or portions of them: for instance, spectacles, photographic cameras, ear trumpets.’ See his, ‘A Note Upon the “Mystic Writing-Pad”’, in James Strachey, Anna Freud, Alix Strachey & Allan Tyson. (eds.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. 19, Hogarth Press and the Institute of Psycho-Analysis, London, p. 228.

inscription: oral, literate or electronic, but in differing ways. The electronic domain appropriates writing/speech (as possible image, sound, or graphic), in the Promethean capacities of the pixel↔wisdom continuum. If papyrus served as an early surface for the inscription of writing, it is the electrically charged digital arena that serves as the significant domain for writing now.<sup>215</sup>

Nonetheless, how writing is utilised in a screen based situation is still a conspicuously puzzling area of electracry. The well-noted dominant status of the image across a range of different artistic/cultural practices has virtually obliterated any discussion of how the graphic qualities of words on the screen abstractly and viscerally construct knowledge.

This has caused the vast body of knowledge we know as *language* to operate sometimes invisibly in the process of electronic production and consumption. In the rush to excise reason (which language is sometimes mistakenly interpreted as a prime foot soldier for) from the postmodern landscape, many electronic producers have ignored this strand of understanding, sometimes referred to as 'video writing',<sup>216</sup> or 'hypertext'.<sup>217</sup> A more recent term is 'electronic writing'.

The range of written languages surrounding and inhabiting electronic forms is enormous. Whilst English is the dominant graphic written and spoken signifier on global electronic networks, it could equally be Cantonese, Spanish, Japanese,

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<sup>215</sup> For a basic overview of this history of writing see, James J. O'Donnell (1998), *Avatars of the Word: From Papyrus to Cyberspace*, Harvard University Press, London.

<sup>216</sup> Raymond Bellour (1990), 'Video Writing', in Doug Hall & Sally Jo Fifer (eds.), *Illuminating Video: An Essential Guide to Video Art*, Aperture, in Association with the Bay Area Video Collective, San Francisco, pp. 421-443.

<sup>217</sup> George P. Landow (1992), *Hypertext: The Convergence of Critical Theory and Technology*, John Hopkins University Press, Baltimore.

Bahasa Indonesian. Various languages, either as a first-, or a second-order mode in the means of representation, are now reproduced electronically.

The increasing use of sub-titling makes knowledge of the multilingual an essential component in the electronic production kit-bag. Electracy is not just comprised of one language; advertently or inadvertently, macroscopically and microscopically, it can capture the whole gamut of written and spoken languages.<sup>218</sup> Electronic modes of information are serving to recuperate lost languages and to keep alive formerly dying ones. As the debate over a global language heats up, the 'ancient gestures' of many lost or dying languages can take their chances with the possibility of an electronic renaissance.<sup>219</sup>

Like the strapped-up prisoner in Kafka's oft-cited short story, 'In the Penal Settlement', written languages are etched into the skin and blood.<sup>220</sup> With electronic forms, the more variegated kinds of available knowledge irradiate us, rather than etch us with their pens and pencils. Electracy, as a network irradiator of languages, regurgitates written text in its audio-visual matrix not in an encyclopaedic way (a density weighed up by word volume, which can assume a corresponding substantiality in meaning itself), but with 'the density of a summary.'<sup>221</sup> Specialisation, substance and depth are still electronically available but the summary marks out a dominant territory in electronic writing systems.

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<sup>218</sup> Raymond Bellour writes: '... video is par excellence one of the places of passage where ancient gestures, more or less specific, change their meaning and become one by unceasingly intertwining one with the other.' See, Bellour, 'Video Writing', p. 422.

<sup>219</sup> For a simple start to this debate see, David Crystal (1990), *English as a Global Language*, Cambridge University Press, Cambridge.

<sup>220</sup> Franz Kafka (1961), 'In the Penal Settlement', in *Metamorphosis and Other Stories*, Penguin Books, Harmondsworth, pp. 167-199.

<sup>221</sup> Bilwet Adilkno, (1995), 'Virtual Writing', in *Mediamatic*, vol. 8, #1, p. 5.

Whilst the popular cliché 'a picture tells a thousand words' is an easy throw away line, it disguises the fact that a written designation on an electronic screen can twist this cliché in a reverse direction. Pithily written epithets like *Sydney 2000*, *Big Brother is Coming*, the typed subtitles used on the *X-Files*, or a simple date and time, regardless of their informational accompaniments in image or sound, serve as a by-way into a whole host of knowledge pockets and avenues. To amend the cliché then: a few short words can paint a thousand pictures. Indeed, too much density in the electronic communicational act may only serve to close down more firmly any developing relationship with a correspondent.

The now defunct current affairs program *The Times*, with its deliberate electronic aesthetic, is a good example of a *screen-writing* practice utilised to make the audience speak, to be provoked, and to answer back. The stories *The Times* did on the then Federal Treasurer Paul Keating's piggery interests, and Charles Perkins, serve as good specific examples of how the brevity of electronic writing can serve to provoke and prod as well as inform. In one scene from the Keating story, an image of a pig is subtitled with the letters 'E-I-E-I-E-E-O'. During the questioning of an interviewee, contradictory statements sometimes might be typed on the bottom of the screen to undercut what is being said.

The show was rife with this satirical 'bottom-up' use of screen language.<sup>222</sup> *The Times* is a marginal mainstream representation of how the literal act of *screen-writing* in electronic contexts lives off popular, ironic or irreverent modes of knowledge. Nonetheless, the utilisation of written text in *The Times* is an indication of how the act of interpretation can also be an intense one. This raises the issue of

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<sup>222</sup> For further discussion on bottom-up practices in journalism see, Jason Sternberg (1995), 'Signs of *The Times*: Television Current Affairs as "Meaning and Pleasure"', in *Metro Magazine*, #101, (April), p. 44.

the relationship between the velocity and density of information dispersal in electracy and the body's motility in incorporating it.

Perhaps the most striking feature of writing in an electronic context though is its screen-based graphic quality. In this sense, typography is another important plane in the development of electracy. That type-faces have a graphic quality should not be in doubt. The revolution in print brought about by the Gutenberg Press and the invention of moveable type in the 15<sup>th</sup> century in some ways is akin to our own electronic transformations. That just 26 letters of the English alphabet, for instance, can be arranged and rearranged to form over 400,000 words is another necessary precondition in the prehistory of electronically organised, digitally encoded information.

In the digital domain it is now possible to make your own typeface in foundries on the WWW. Each of these typefaces carries its own semiotic code along with simultaneously carrying the meaning of the language itself. How the letters, numbers and words of a particular typeface are both subsequently spatially arranged and coloured on the screen marks out another level of meaning making in the electronic artwork. This is the word's screen based graphic quality.

As Larissa Moody has pointed out, typeface design is itself a digital operation in that it relies on the grid matrix to organise the invisible level of its own design construction.<sup>223</sup> The design page is broken down into a grid matrix of 2,304 tiny squares. Each square is a mathematical representation, a microelement in the



overall design of a given letter within a typeface. This grid supports typeface design as each letter is broken up into its component parts in the multiple series of minute squares the grid marks out. The grid matrix of typeface design is the print precursor of the raster grid, a technical form the electronic screen relies on to deliver information.<sup>224</sup> Again, there is in the totality of typographic information, a digital pre-history marked out by its microscopically constructed components.<sup>225</sup>

## Camera

Thus what is in question is a certain *image* of the camera: metonymically, it represents the whole of cinema technology, it is part for the whole. It is brought forward as the *visible part* for the *whole of the technics*.<sup>226</sup>

Jean-Louis Comolli

Perhaps we should not be looking to the camera as a master symbol in the history of representational technology, but to the microscope. This shift in an

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<sup>223</sup> Larissa Moody (1999), *Magazine Typographic Design in the Digital Age*, Honours Thesis, Southern Cross University, Lismore, especially the chapter outlining: 'The Digital-Analog Distinction', pp. 31-43. See also, Philip Meggs (1998), *A History of Graphic Design*, (3rd. ed.), John Wiley and Sons, New York. p. 108.

<sup>224</sup> Cf. 'Grids always provide the common point among uncommon commonalities.' See, Bernard Tschumi (1997), 'Introduction' in Jeffrey Kipnis & Thomas Leiser (eds.), *Chora L Works: Jacques Derrida and Peter Eisenman*, The Monacelli Press, New York, p. 125.

<sup>225</sup> For another thoughtful overview of the digital pre-history of writing see, Darren Tofts (1998), *Memory Trade*. See especially chapter 2: 'The Technology Within', pp. 32-51.

<sup>226</sup> Jean-Louis Comolli (1980), 'Machines of the Visible', in Teresa de Lauretis & Stephen Heath (eds.), *The Cinematic Apparatus*, Macmillan, London, p. 124. [Italics in the original].

originating emphasis puts forward another important aspect of electracy — technacy. In some ways, the microscope points into the body, rather than outward to the world, as a camera is mostly prone to do. It also reminds us of the intimate relationship between science and art. And it is in this centrality of technacy (a praxiological understanding of the operating conditions and representational capacities of the technology a person works with) that both the camera and microscope serve as an important node in the radial logic of electracy.

It was the Dutchman and amateur scientist — Antony van Leeuwenhoek, who is usually credited with inventing the microscope in the 1660s. One of the first things Leeuwenhoek took to looking at with this new instrument were the microbic animals living in his mouth. As Theodor Rosebury argues, Leeuwenhoek was the first person to microscopically analyse the ‘invisible’ animals (for instance, leptotrichia and actinomyces), inhabiting our mouths.<sup>227</sup> In the first instance then, he trained the microscope inward, into his own body. Leeuwenhoek also microscopically examined his own faeces.

The camera and the microscope are complementary technologies. And as Comolli also notes with reference to the camera, they both can stand in for not only the ‘*whole of the technics*’, but also come to represent an effacement of the ideologies, economics, social and cultural practices, and the actual work processes, accompanying and mediating them.<sup>228</sup> It is useful to keep in mind though human agency is necessary to the design and operation of any given piece of technology.

What Comolli has said for the cinematic camera is also inherited by the electronic camera — but with various permutations. With its ability to record and replay representable phenomena like light, colour, movement, sound, voice etc.,

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<sup>227</sup> Theodor Rosebury (1969), *Life on Man*, Secker & Warburg, London, see especially chapter: 2: ‘Leeuwenhoek Saw it First’, pp. 9-22.

through a interconnected relay of optical, electronic and mechanical technologies, the camera is both a metaphoric and a tangible reality. The electronic camera has become more central to the field of everyday life, but what is the status of its relationship to the cinematic camera? The presence of electronic cameras is more ubiquitous, more ordinary in relation to the film camera — a relatively expensive and specialised piece of technology requiring more highly trained personnel to operate it. The ubiquity of camcorders helps popularise image, sound and graphic forms of knowledge.

The opening shots of Haskell Wexler's 1968 feature film *Medium Cool* indicate the importance of recording technology. The two central protagonists (one a camera-man, the other a sound-man) are recording what looks to be a dead car-crash victim, motionlessly sprawled out of the driver's seat onto the side of the road where her car rests. After recording the scene, the sound-man phones for an ambulance. The recording devices themselves (both the camera and the Nagra are in view) are the significant symbols in *Medium Cool*. (Wexler is an important American documentary-maker and a renowned Hollywood cinematographer). In a burgeoning electracy, the mythology surrounding the camera continues, albeit with a changed character.

The camera's metaphysical surplus-value arises out of its both symbolic and informational excitations. The camcorder has a lineage dating back through the Box Brownie, the camera obscura, the magic lantern, possibly even to astronomy. The camera is an interconnected mix of optical, mechanical and electronic technologies, coupled with aesthetic variables. While the already mentioned intimacy between communication technology and military research and development should never be forgotten, it is in the final result of this R&D that military technology ends up in

everyday use.<sup>229</sup> The film camera and the camcorder have benefited from this R&D. Conceived as an optically-orientated instrument of knowledge production, the latter has been converted into a popular technology and a fine example of the relationship between technological design and ideology.

The overpowering symbolism of the cinematic camera as metonym and synecdoche, as Comolli refers to it, also 'implies [a] masking, [an] effacement of work.'<sup>230</sup> Sometimes marketed as a tool to be consumed, work with the camera—its productive capacity *and* capital-equipment capability — is sometimes overlooked. While the economic surplus-value comes out of the difference between the total Sony might pay to manufacture a camera and the price that camera actually sells for, the metaphysical surplus-value arises out of the aesthetic capability of its productive capacity. So, the camera has evolved from an optical/mechanical machine central to the cinema, into a highly visible *and* a symbolically variable productive node in electracry.

Now, more than ever, increasing numbers of electronic cameras cross-pollinate the symbol-world with the *everyday*. This cross-pollination is riddled with the camera's aesthetic and voyeuristic voraciousness.<sup>231</sup> The actual work it does in delineating line; perspective; depth of field; close-ups, mid-shots, and long-shots of bodies; as well as focus, colour, movement and sound might be classified under its productive capacity. The electronic camera stands alongside the gun, the home, and the factory as a means of marshalling, cohering, arranging and presenting a

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<sup>229</sup> For another outline on the relationship between the military and 'everyday life' see DeeDee Halleck (1991), 'Watch Out, Dick Tracey! Popular Video in the Wake of the *Exxon Valdez*', in Constance Penley & Andrew Ross (eds.), *Technoculture*, University of Minnesota Press, Minneapolis, pp. 211-229.

<sup>230</sup> Jean-Louis Comolli (1980), 'Machines of the Visible', p. 125.

<sup>231</sup> An example of this voraciousness from the region where I live is Lismore City Council's efforts to raise money for the installation of a number of security cameras strategically placed in the city's central business district in an attempt to curb anti-social and criminal behaviour. See, Jennifer Somerville (1997), 'Security is Centre-Stage', in *Northern Star*, Saturday June 21, p. 5. The cameras have subsequently been installed.

long history of human symbol-making, and its consumption. Each person using a camera makes a contribution to this history.

Indeed, an acute self- *and* political-consciousness is a necessity for electronic artists in order to participate in this (self)-production *and* (self)-policing process. Most technologies require some form of productive component in their architectonic structure, otherwise they simply do not become popular. This is a fact not even the conglomerates of global capitalism can evade: 'Passive video technology has never made it with consumers. RCA wasted \$550 million [on passive play only laser disk technology] finding that out.'<sup>232</sup> The aesthetic cultures of the everyday and the amateur, and the semi/professional, relishes the possibility of a machine open to the production, reproduction and consumption of anything within its purview. It might be possible to go so far as to say there is no such thing as a consumption-only technology.

The camera contributes significantly to Ulmer's notion of a heuretic intervention into the imaginative aestheticisation of reality,<sup>233</sup> of knowledge and the self, both despite and because of the strictures of any socio-political structure. The use of the camera in everyday life can then be a symbol of the self-policing strictures embedded in both consumption and production while also being a tangible reminder that '... the action of freedom issues in the strictest rule of law.'<sup>234</sup> In this case the law might be technical, ideological, or even purely legal. The camera, used in this way, makes an important contribution to a heuristic mode of learning and making, and these latter two concepts are central components of electracy.

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<sup>232</sup> Dee Dee Halleck (1991), 'Watch Out, Dick Tracey! Popular Video in the Wake of the *Exxon Valdez*', p. 217.

<sup>233</sup> Gregory Ulmer says that '... (heuretics is a heuristic approach to theory).' See his (1994), *Heuretics*, p. 8.

<sup>234</sup> Charles Sanders Peirce (1992), 'Design and Chance', p. 222.

This conscious/unconscious ambivalence between (self)-production *and* (self)-policing is made manifest in one of the camera's simple technical operations. Virtually all popularly available electronic cameras contain in their architectonics a function that can shift between manual and automatic operation — the automatic mode can let the camera itself determine focus, exposure, white balance, etc. In predominantly amateur or non-professional circumstances, the automatic function mostly takes precedence. In these latter situations it is the camera itself which can make the aesthetic 'choices'. When the manual override is used, it suggests an advanced knowledge of this ambivalence *and* an active participation in it.

In typical amateur footage for instance, this automatic function is, for the most part, left on. In semi/professional circumstances, manual operation is nearly always used. In either case, the 'strictest rule of *technical law*', with its pre- and co-instantaneous political, social, symbolic and cultural encoding, is at work regardless of aesthetic intention. For the concept of "automatic pilot" to work it requires both human and technical acquiescence. However, like any technically automated system, an ideology of some kind is always with the operator of the machine.

On the other hand, the open play of subjectivity interacting with the 'strictest rule of technical law' pulls into convergence any conflict between the two. Indeed, one could say (to paraphrase Roland Barthes) the conflict between the form an aesthetic invention takes place in (in this case the camera's technical capability), and any given subject's knowledge of that form is the crucible of style.<sup>235</sup> A distinctive style (in the animation tradition, *The Simpsons* provides a good example), is one important key to marking out any artwork. Freedom is attained only in that moment when an artist makes a specific choice out of a range of possibilities,

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<sup>235</sup> Roland Barthes (1967), 'What is Writing' in *Writing Degree Zero*, trans. by Annette Lavers & Colin Smith, Hill and Wang, New York, p. 9-18.

although sometimes these choices in symbolic construction move through on 'automatic pilot', they also have a conscious 'manual override'. While the camera is not limited to the manual/automatic button, the difference between conscious and unconscious symbolic integration is one important sub-menu in electracy.

Recent developments in camera technology during the 1990s further consolidate this idea. In late 1994, Canon released its UC (Ultra Compact) Series of 8 mm Camcorders. In the promotional literature accompanying the release of this series of cameras, Canon claims a 'world first' with what it calls 'Eye Control'. It is worth quoting in full from this document to explain what Canon means by it:

Superimposed over the image in the UC-XIHi viewfinder is a small frame. Look at any area of the image and the frame will move to centre on the point of interest. Track a moving subject with your eye and the frame will follow. Autofocus readings are taken from this frame, so the results are always perfect for the area you look at. You can fix the focusing position with 'Frame Lock'. But that's not all.

'Eye-controlled switches' allow you to operate some of the camcorder functions with your eye. First select the required switch from the menu before recording.

Then, by simply looking at the bottom left corner of the viewfinder you can operate the fade, turn the date or title displays on or off, or run Record Review (plays the last three seconds of recorded tape so that you can check the image).

There is also an eye-controlled 'Close-up' function. This digital effect enlarges the area around the frame.<sup>236</sup>

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<sup>236</sup> This is a quote from a promotional pamphlet entitled *Canon UC Series Ultra Compact 8 mm Camcorders*. It is published by ©Canon Europa N.V. (1994), in The Netherlands and printed in English. It is coded ZCI-2960 ENG, p. 2.

Although there is a slightly misleading name on the 'eye-control' system, it was, at the time, a feature new to camera technology. It is a technical feature bringing together body and form, and the manual and automatic operations of a camera.

In allying the physiological point of focus in the eye to the point of focus in the frame itself, there is clearly a breakdown in the all too easy understanding brought about by 'manual' (intentional subjective control over the technology) and 'automatic' (technological control over subjective aesthetic choice). With this technological advance Canon has implied that the "I see" of psychic formation, and what a lens sees in its technical formation, are on intimate terms in the construction of electronic knowledge. More recent technological developments in combining still and moving image cameras, along with MP3, lead us to the computer in its ability to synthesise text, sound, graphics, images, even numbers. The electro-charged synaesthetic skein is slowly winding itself in/through every single creative decision of the artist.

This interpellation between eye and camera is further augmented by a shift in the electronic nature of the image itself. In much of the psychoanalytic criticism of the film medium, the frame remained a prime means of discovery of that form's meaning. Laura Mulvey's influential essay, 'Visual Pleasure and Narrative Cinema', remains a standard reference point in assumptions about the frame within film studies.<sup>237</sup> This essay posited the idea of the female body, manifested by the film frame, as an object of the male gaze.

A woman's body, and the way it was constructed by the male gaze, was the primary focus of Mulvey's argument but, in retrospect, her ideas could now equally be applied to the masculine as an object of both the male *and* female gaze. This is primarily why Elena del R  o can still argue of Atom Egoyan's cinema that the 'body



is the foundation of the screen'.<sup>238</sup> While the body may been gender-neutered here (replaced by anybody's gaze directed at any *body*), the frame itself remains a centring discourse throughout. Certainly the frame remains an important feature of electronic aesthetics, but there is also a significant shift.

While a detailed analysis of the gendered body is outside the scope of this discussion, even a close-up of the face implied the whole body. The *framed gaze* could, tautologically, only see what it could see: another body, physiologically very much like, as well as slightly different from, the one the viewer possessed. The twenty-fourth-of-a-second film frame resisted being broken down into further micro-categorisations. As a consequence, the analysis veered into the symbolic nature of frame content, and less so into the technological structure of that content.

The resulting interpretation of content analysis is often considered to be external to the frame itself. That is, the completion of a sign's meaning resides in cognition, society, cultural interpretation, or some other exterior modality. Consider Yvette Biró's remark:

Here, then, is the deepest paradox of the sign: on the one hand it makes visible what otherwise would remain inaccessible, and on the other hand, we must discover in it something other than what is visible, something that is beyond the senses, that can be understood only in an indirect way.<sup>239</sup>

While at the same time as keeping this exteriority of meaning production, the electronic frame expands the continuum of knowledge production to include, 'Pixels ... ' (a conflation of *picture element*) which 'in a videographic landscape are

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<sup>237</sup> Laura Mulvey (1975), 'Visual Pleasure and Narrative Cinema', in *Screen*, vol. 16, #3, pp. 6-18.

<sup>238</sup> Elena del Río (1996), 'The Body as Foundation of the Screen: Allegories of Technology in Atom Egoyan's *Speaking Parts*', in *Camera Obscura*, vol. 38, (May), pp. 93-115. I am indebted to Justine Lloyd for pointing this article out to me.

<sup>239</sup> Yvette Biró (1982), *Profane Mythology: The Savage Mind of the Cinema*, trans. by Imre Goldstein, Indiana University Press, Bloomington, p. 31.

considered the basic building blocks.<sup>240</sup> Pixels, along with bits, bytes, 0s and 1s, can be included in this expansion of the frame in electracy.

The pixel, formed by the explosion of phosphorus in an electronic monitor, shifts the emphasis from a *whole* body to a microscopically fractal image-making process. Needless to say, the lone pixel, like the singular molecular structure of the body, is largely invisible to the naked eye. In a technological sense, this basic transformation of the informational unit of the frame to a pixel initiates a kind of micro-narrativisation of the body, as well as in the representational impulse itself. The electronic camera's invention and use also alerts us to the existence of sub-optic discourses. Seeing (even the gaze?) may be no longer necessary to 'truth'. Electracy incorporates imaging instruments like the electron microscope, and ultra-sound to fill out this vision of the unseen and sub-atomic particles of the body, and all matter formerly invisible to the naked eye. Pixels start to get us acquainted with the nano- and the bio-genetic world.

The electronic frame then is made up of literally thousands of dots of phosphorus.<sup>241</sup> The consequences of this *re*-framing of information by the electronic camera, and other associated technologies, has not been fully understood by many electronic artists, especially those trained in the traditions of filmmaking or literacy. While the term "picture element" may suggest an independent status for the pixel, this is not necessarily the case:

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<sup>240</sup> John T. Caldwell (1993), 'Televisuality as a Semiotic Machine', p. 29.

<sup>241</sup> In any given PAL frame, for instance, there are 625 lines with, on average, 500 pixels to each line. This adds up to approximately 312,000 picture elements in the average video frame. An electronic image's definition then is defined by number of pixels that can be crammed into its frame. Digital broadcasting and HDTV work on improving this definition to bring it up to cinematic standards.

There are no discrete picture elements or "pixels" in an analog video signal as there are in a digital signal or a computer graphics image. In an analogue signal there is only a constantly changing current level.<sup>242</sup>

However, even in a continuous analogue environment where the pixel is 'invisible', the pixel remains a precursor to the bit, the byte, and the 0/1 configuration of the digital. This is micro-miniaturisation of the film frame by other means. It is a process also encouraging the development of multiple-use machines.

The pixel covertly beavers away helter-skelter, with their singularly incomprehensible and hidden meanings, while the consciously readable frame coheres (the point at which a collection of pixels moves into a recognisable image or sound) and goes about the more overt end of knowledge production. The pixel is that interstitial space in electracy connecting human perception to previously unknown symbol worlds.

Another specific way the camera positions itself and the subject is through its facility of focus. Focus, coming as it does out of still camera technology, and back beyond that to the physiological ability of the eye, to pinpoint its attention on a particular object in the field of view. The ability of the camera to *focus* can easily be looked upon as a *natural* untainted technological phenomenon. Alternatively, it is a manoeuvre connecting the camera and camera operator to the *depth of field* in a particular shot. On closer observation, this silence can reveal some minor complexities of its own, along with fruitful relationships with other elements of electracy.

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<sup>242</sup> Harry Mathias & Richard Patterson (1988), *Electronic Cinematography*, Wadsworth Publishing Co.; Belmont,

Focus is not merely a point of clarity on which the camera settles to find a crisp image. It is also a point at which the image, the camera/operator, and the viewer might find a *hearth*, one of the original Latin meanings of the word *focus*. Generally, a viewer fixes on a focal point only after it traverses all the possible information in a given shot. The constantly shifting focal physiology in the eye allows consciousness itself to make a fixed point of attention out of the various arrivals and departures within the content domains of an image.

However, for the eye to fix itself on an out-of-focus aspect of a shot is a physiologically difficult manoeuvre. When focus in the shot agrees with the focus of consciousness, maybe the best possible conditions are laid down for that image to become a memory, for it to find a *home* in un/conscious/ness. This is not to say that out-of-focus material does not find a home in this psychological space, as a great deal of the imaginatively directed BBC home-based drama *In a Land of Plenty* might affirm. This reminds us the symbol-world only comes alive in the home of the imagination, before it can materialise as a cultural product.

A more mobile aspect of this psychological/physiological symbolic fixation is in the illusory three-dimensional space of the frame. The shifting horizontal, vertical, depth axes, close-ups, mid-shots, wide-shots (both within a shot and in its temporal sequencing), along with focus, and the fourth dimension of time,

eventually all join up as an electronically dynamic version of *perspective* to further ground electracy in the visual arts tradition.<sup>243</sup>

Perspective produces a vanishing point in an image. This is where all the sightlines lead to, and about which Brian Rotman says is the,

marking [out of] the artist's horizon point, that is the spot he faces on the horizon of the scene he depicts, [which] becomes the mark of the spectator's horizon point. The spectator sees from the artist's 'point of view'.

In one all-too-easy technical procedure the camera copies an influential aspect of the history of visual art and makes it a commonplace aspect of electracy. The vanishing point, though, might be inappropriately named. Rotman goes on to say that it, 'acts as a mirror, reflecting back to the spectator an imagined version of himself, a fictive visual self in the guise of the artist.'<sup>244</sup> A fictional Terrence Maybury may well be made up of the character traits and living conditions of *Ren and Stimpy*, as the producers of this program put these features into electronic *perspective*.

The pulse of electronic information is made more formidable when the image *moves*. It took some time for early cinema to realise 24/25 frames per second was the speed at which human perception viewed the world, hence the 'comedy capers' effect of early cinema. The camera's technical reference point here is the viewfinder's cross-hair (+), a calibration point often used as the driving sightline in video-games as well as the determination of focus in both electronic and still cameras. And to take a cue from video games, this cross-hair serves as a driving

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<sup>243</sup> For an overview of the relationship between Renaissance perspective and electronic aesthetics see, Kim H. Veltman (1996), 'Electronic Media: The Rebirth of Perspective and the Fragmentation of Illusion', in Timothy Druckrey (ed.), *Electronic Culture: Technology and Visual Representation*, Aperture, New York, pp. 209-227.

<sup>244</sup> Brian Rotman (1987), *Signifying Nothing: The Semiotics of Zero*, St. Martin's Press, New York, p. 19.

wheel, as a way of embedding the illusion of viewer control over electronic information. Anne Hollander goes even further in saying,

The camera, which in still photography can look so objective, in motion is the narrative vessel of subjectivity itself ... Not detached observation, not lively commentary, but total engagement is what it offers—a persuasiveness of seeing, not as understanding or as knowledge, but as *being* itself.<sup>245</sup>

Generally, technologies essential to electracy have a more personable intimacy with their users. It is not just a machine you turn on or off, you psychically engage with it. As one of the more popularly diffused technologies, the camera is at the forefront of the synaesthetic skein of electronic productivity.

## The Surface of Inscription

If you were to peel away the layers on a section of audio- or video-tape, the procedure would eventually lead past the iron oxide and carbon to a catalogue of more ancient surfaces. Dirt, stone, wood, canvas, masonite, paper, steel, iron, nitrate celluloid, among others, would reveal themselves as a history directly connected to electronic surfaces. All are *surfaces* of creative inscription. A fuller understanding of this inventory of surfaces could help, it might be a clue to the nature of the electronic surface itself.

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<sup>245</sup> Anne Hollander (1991), *Moving Pictures*, Harvard University Press, Cambridge, Massachusetts; p. 51. [My emphasis].

One way electronic tape differs from its antecedents is that when you look directly at it, you cannot tell if the surface is actually inscribed on or not. It requires a machine to reveal the creative effort involved.<sup>246</sup> The same is true of digital storage machines like hard, zip, or jaz drives. The surfaces of old could live on (at least till entropy caught up with them) without the aid of such a technical intermediary. This is not so with tape and digital storage surfaces.

The ribbon like quality of tape is itself a kind of möbius strip, the already mentioned central metaphor of Elizabeth Grosz's *Volatile Bodies*. While the electronic surface itself is monitored by a series of linear and circular movements: play, fast forward, rewind, fast rewind, frame by frame, some machines even allowing tape to play slow motion, tape is a materialisation of Grosz's specific discussion in 'The Body as Inscriptive Surface'.<sup>247</sup>

Every aesthetic act is an attempt to mark a surface of some kind, and it may well be the various electronic surfaces of inscription stand in for bodily inscription. More precisely, and to take another cue from Grosz's work, electracy is also an abstract arena (wherein social taboos, prohibitions, outlawed knowledges, *and* socially acceptable knowledges), are inscribed in a politically tolerated way. Of equal interest might be the question of how a cultural product navigates its reception? Surface inscription is the most politically and psychically charged moment of electronic production. The electronic surface brings to this ageless political/creative dilemma its own unique problems and opportunities.

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<sup>246</sup> Martha Mollison (1997), *Producing Videos: A Complete Guide*, AFTRS, Sydney, p. 65.  
<sup>247</sup> Elizabeth Grosz (1994), *Volatile Bodies*, pp. 138-159.

Without a specified format though the information on an electronic surface remains homeless, unable to broadcast its distinctive arrangement of properties. The electronic surface then is in an indexical relationship with these older inscriptive surfaces: it is a tensile nodal-point between a strictly organic, and subsequently, a mechanical view of production, and that of electronic production. An in-depth understanding of *surface* is a crucial skill in electracy.

The electronic surface is an ephemeral one, open to degradation in a short period of time and more quickly lost to entropic processes. Indeed, it may be this dream-like, decaying quality of the electronic surface that most endears it to memory, and memorising processes, the results of which might themselves fade in and out of un/conscious/ness. Best of all are the electronic recordings that may get 'lost forever', never to be remembered, but always at play in the imagination. In electracy, an evolved ghost from the oral tradition (where talk is only recordable/recoverable by memory), re-surfaces. On the electronic surface, the latent ghosts of repressed information travel, keenly looking for an opening into discourse.

## **Light, Shadow, Darkness**

In the multi-skilled arena of electracy, the artful manipulation of light and dark is another important defining aspect of its aesthetic. In conjunction with the camera's exposure facility (the iris opening at various F-stops to let in variable levels of light), the array of lighting possibilities is one of the most direct ways in



which an aesthetic technique approximates the eye's physiology. In contrast, one significant feature of electronic cameras is their low-lux capability, some can record with the 'light' from one candle.

This emphasis on the *minimum* amount of light needed has promoted a spurious notion some electronic art does not need any detailed lighting set-ups. But as John T. Caldwell says in relation to television production:

Television is typically thought of as a medium of electronics and light, as an end product of high technology. Makers and producers, on the other hand, situate the medium in practice, as a surface to be worked over, marked on, blurred, and blended. In short, users import artistic methods that are alien to the immaterial and tenuous world of electromagnetic wave communication.<sup>248</sup>

Nevertheless, as an 'imported artistic method', lighting directly connects electracy to older established aesthetic forms, like chiaroscuro.<sup>249</sup>

In the Australian context, you would only have to think of the work of Tom Roberts and his compatriots and their influence on Australian cinematographers and their subsequent work in the film, mini-series, advertisements etc. to verify this statement.<sup>250</sup> It is this detailed understanding of light in these older aesthetic traditions that allows William J. Mitchell to talk of 'synthetic shading', an ability to program the computer to organise the complex algorithms that can 'paint' an

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<sup>248</sup> John T. Caldwell (1993), 'Televisuality as a Semiotic Machine', pp. 28-29.

<sup>249</sup> For an influential counter-argument to Caldwell's negative assessment of this artistic importation, readers should refer to the already cited Anne Hollander (1991), *Moving Pictures*. This is a work that articulates an argument for the influence of visual art practice, from the fifteenth to the twentieth century, has had on cinema. By a process of osmosis this influence has continued down through television, video, and finally I believe to the realm of this enquiry, electracy.

<sup>250</sup> On this point, see Ross Gibson's (1993) essay, 'Camera Natura: Landscape in Australian Feature Films', in John Frow & Meaghan Morris (eds.), *Australian Cultural Studies: A Reader*, Allen & Unwin, Sydney, pp. 209-221.

infinite variety of lighting scenarios on an electronic screen.<sup>251</sup> Without knowledge of these older traditions, a full outline of lighting in electracy could not emerge.

An important aesthetic consideration for electronic production is how light illuminates the depth of field, and formally how, 'Higher light levels permit greater depth of field.'<sup>252</sup> Depth of field is that area within the content of the frame remaining in focus and is determined by a range of factors including back-focus; lens quality, their size and variability; as well as the direction and intensity of the light. From an abstract point of view, depth of field could also be referred to as synchronic depth — the instantaneous extent, quality, and meaning, of the information occurring within a single still frame of electronic data. Diachronic information is how that frame is joined to the next frame and subsequently understood as it moves in/through time. Without light, neither spatial nor temporal information would be discernible. Better still, electronic forms intensify the depth of our relationship to space. Sitting in the 180° Imax world of Antarctica is somehow an electronic experience too.

And while temporal information, for the most part, deals with narrative, the depth of field in a shot is primarily *spatial*. In this synchronic sense then, I have been a virtual visitor at the Ponderosa ranch, Maxwell Smart's Cone of Silence, cavorting with Frankie Howard in *Up Pompeii*, swimming in the colour of tropical oceans, and strapped in a spaceship over Jupiter on my way out to another solar system.

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<sup>251</sup> William J. Mitchell (1994), *The Reconfigured Eye: Visual Truth in the Post-Photographic Era*, MIT Press; Cambridge, Massachusetts; pp. 137-162.

Spatial information is psychically incorporated more thoroughly in that microsecond of perception because it largely serves as background, rather than the centre-stage presence of the dramatic and the diachronic.<sup>253</sup> While the power of diachronic information is not abolished in electronic contexts, the latter have allowed spatial information to come to rival the more dominant status of temporally arranged information (the image and the story).<sup>254</sup> In electronic production, (with its reliance on the idiosyncratic, the sometimes indecipherable family 'story', or the fragment), spatial knowledge is elevated in importance. Indeed, spatial form may be the locus of electracy rather than narrative form.

Greg Toland's depth of field experiments as the cinematographer on *Citizen Kane* made us look at space in the audio-visual frame more intently.<sup>255</sup> Adjusting the iris to differing lighting conditions within a single frame of looking is a deep seated urge to duplicate not an 'objective reality', but rather an attempt to try to understand more fully how a subject understands, physiologically and psychologically, the scene in front of its eyes.

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<sup>252</sup> Harry Mathias & Richard Patterson (1988), *Electronic Cinematography*, p. 177.

<sup>253</sup> Cf. '... when we look at an image it is instantly and irreversibly integrated and collated with the intricate psychic network of our knowledge.' See, Victor Burgin (1986), 'Seeing Sense', p. 64. A similar thing could be said about sound.

<sup>254</sup> For another rumination on the relationship between spatiality, place, memory and video see, Gregory Ulmer (1989), *Teletheory*, particularly chapter 4: 'Memory I: Place/Roots', pp. 133-165.

<sup>255</sup> See Toland's discussion on the shooting of *Citizen Kane* in Jay Leyda (ed.), (1977), *Voices of Film Experience: 1894 to the Present*, Macmillan, New York, pp. 461-464.

Visceral language litters the technical literature on lighting: 'mood', 'colour', 'softness', 'cool', etc.<sup>256</sup> In other words, lighting/camera people are indirectly attempting to duplicate the circumstances of subjective understanding. The exclusiveness of this duplication is an effort to rid the social out of representation, to make the message itself solipsistic, meant only for the receiver.<sup>257</sup> It is the 'grand illusion' of a message only meant for me. Electronic communication is an attempt to personalise all forms of communication.

The aesthetic alliance between a camera's iris and light makes a direct connection between knowledge, the body and the deities. In Greek mythology, Iris was a messenger of the gods and regarded as a goddess of the rainbow. The obvious connection here to knowledge transference and the very nature of light itself is clear. White light makes a significant contribution to a range of ideologies: racism, religion, politics, among them. The independent existence and the relationship between light and dark, stands at the centre of a range of religious traditions: Judaism, Christianity, and Buddhism, for example.

The manipulation of light, shadows and darkness is an extension of this age-old habit of mind and body. The relationship between the white-hot purity of heaven and a pitch-black eschatological hell seemingly commits the symbol-world to the shadow-realm to life itself.<sup>258</sup> And as lighting people go about their tasks, fantasies of God the Creator intrude on their deliberations. Each and every one of us has this relationship to the world in that we open our eyes to see, and close them

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<sup>256</sup> A good example of the use of this language is the cinematographer Brian Probyn's discussion of his craft in, Ian A. Stocks (1981), *Lighting for Film and Television*, Australian Film & Television School, Sydney, pp. 19-20.

<sup>257</sup> This observation arises out of Jean-Louis Comolli's remark that: 'If the social machine manufactures representations, it also manufactures *itself* from representations - the latter operative at once as means, matter and condition of sociality.' See his (1980), 'Machines of the Visible', p. 121.

<sup>258</sup> For a 'racial' take on the use of light in film production see, Richard Dyer (1997), *White*, Routledge, London & New York, especially chapter 3: 'The Light of the World', pp. 82-144.

to dream and die. When Fox Mulder and Dana Scully flash their torchlights on the object of their mutual gaze, they, like us, are searching for the 'truth', a primal metaphysical legacy in the play of *light*, *shadow* and *dark*. And in the more advanced distributional forms of electracy, fibre-optics uses light itself to transfer information.

## The Black and White of Colour

... the deepest and truest secrets of color effect are, I know, invisible even to the eye, and are beheld by the heart alone. The essential eludes conceptual formulation.<sup>259</sup>

Johannes Itten

If 'Light travels in straight lines', colour is possibly a better means of representing the meandering and visceral nature of electracy.<sup>260</sup> While the visible colour spectrum is only six in number: red, orange, yellow, green, blue, and violet, the complexity of its subjective interpretation is astonishing. The electronic era has added to this complexity by allowing a vastly increased range of colours for use on its screen-canvas. One of the largely unheralded contributors to the success of the WWW has been its ability to use colour in intense ways, building on both nature and previous aesthetic practices, something that could be called hyper-colour.

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<sup>259</sup> Johannes Itten (1973), *The Art of Color: The Subjective Experience and Objective Rationale of Color*, Van Nostrand Reinhold, New York, p. 11.

<sup>260</sup> Ian A. Stocks (1981), *Lighting for Film and Television*, p. 2.

Colour has, for many a millennium, served as a scapegoat for artistic and moral, as well as ecological and political ambiguity. Green can stand in for jealousy and/or the verdant spring after a grey winter. Colour is a semiotic system that resonates as an objective media to the extent that it can be delineated as a 'force of nature', operating on the human psyche outside of cultural or con/textual conditions. This 'objective' force, though, may have come about because the range of colours available to artistic practice has always been limited in every epoch by a culture's location and the specific colour materials that location makes available. In Australia, the Koori use of ochre is a specific expression of this idea. In other words, colour is used as an aesthetic technology regardless of whether it is derived from rocks or electrons.

Conversely, colour has operated as an almost exclusively subjective entity where its selection, interpretation, and use resides in 'the heart alone', to use Itten's language. Cultural and political conditioning has 'naturalised' colour as a pre-eminent language of subjectivity, one under the exercise and control of an individual consciousness. This illusory power denies the pre-existence of colour in narrative and mythic knowledge as well as in nature itself. Electronic colour has at its disposal this whole array of knowledge to which it is adding its own distinctive hue.

Through this idea of colour as 'real', as 'nature', as unproblematically mediated through subjective experience, something is avoided: colour's

contextually specific significance. The Russian filmmaker Sergei Eisenstein, refers to this phenomenon by saying:

... when any segment of the colour spectrum achieves a special vogue,  
we can look behind it for the *anecdote*, the concrete episode that binds a  
colour to specifically associated ideas.<sup>261</sup>

The polymorphous presence of colour, of its in-the-world-materiality, and its contribution to narrative and spatial knowledge, predates any form of innate intuition. Colour is not merely the most subjective branch of meaning making; rather, it is another of the raw materials necessary to a poly-symbolic aesthetic, an idea easily associated with consciousness.

The chief distinction of electronic colour is that it is 'additive'. This means that increasing amounts of electrons are aimed at the phosphors to produce the desired colour. 'Colour film ...', on the other hand, 'has three dye layers that produce a full spectrum of color subtractively.'<sup>262</sup> This means that within the chemical processing of film, colour rendition is fixed by taking out the unnecessary colours first by exposing the film in the camera, and finally, by chemically developing it in the lab. This leaves the second stage (the first being the initial photographic act), of colour interpretation in the hands of manufacturing entities like Kodak, Fuji, or Agfa.

Electronic colour, being additive, allows aesthetic manipulation to occur at the conceptualisation stage, and the production stage. As well, colour can be further manipulated at the post-production, reproduction *and* the broadcast stage. From a production point of view, it is relatively easy to add in colour, and while taking it

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<sup>261</sup> Sergei Eisenstein (1968), 'Colour and Meaning', in *The Film Sense*, trans. by Jay Leyda, Faber & Faber, London, p. 115. [Italics in the original].

out is a little more difficult, it can be done. In this respect electronic artists are in league with visual artists: the frame is a surface to be coloured in.

In tracing a lineage of electronic colour rendition, it is also important to mention black and white, a period of television history still vivid to me (as a child, my family watched Crawford Production's *Homicide* and *Division 4* in black and white). Along with chrominance information (colour), the electronic signal is interleaved with luminance information (brightness). This is particularly significant because, 'The key to the success of such an encoded color system is the fact that the eye is so much more sensitive to variations in brightness than it is to variations in color.'<sup>263</sup> Chrominance and luminance, though, work in sync with one another.

Electronic colour cannot be thought of without reference to light itself; to its brightness, saturation and hue; to how the camera itself is set up; nor to the actual means of its recording and dissemination; *and* the physiological, psychological and the socio-political contexts of its interpretation. This makes its meaning reliant not only on pre-existing symbolic forms and contextual tropes, but also on technical and corporeally codified systems of understanding. The flow of meaning represented by electronic colour must take into account these multiple variations at the moment of interpretation.

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<sup>262</sup> Harry Mathias & Richard Patterson (1985), *Electronic Cinematography*, p. 112.

<sup>263</sup> Johannes Itten (1973), *The Art of Color*, p. 115.



Itten also makes the point, 'that colors are primordial ideas.'<sup>264</sup> This primordial quality is as much biological, as a part of consciousness, both of which cannot exist without the other. Above all, while the millions of colours available to electronic image-making are the closest thing to a materialisation of the psyche we have,<sup>265</sup> it is to the related concept of synaesthesia that colour is more pertinent in this context.

Colour can be looked at as a 'pattern-making' component of production and interpretation.<sup>266</sup> Synaesthesia is the ability of one aesthetic component to suggest, lead to, hint at, or detract from, another component. An obvious synaesthetic connection is between colour and sound where, simply, red could suggest a clanging, loud, cacophonous noise.

Electronic colour, because of the extent to which it is controllable in production, posits a more prominent role for the synaesthetic quality of electracy. The rich hue and saturation of the colour in children's programs like *The Teletubbies*, *Bananas in Pyjamas*, and *Preston Pig*, for example, help give that genre its complexity. In this context, where children are reading colour, but lack the advanced knowledge of its use in various contexts, seems symptomatic of electracy more generally. We sometimes read electronic information instinctively, almost blindly in that we have little meta-knowledge of it structured with a collectively understood grammar or syntax.

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<sup>264</sup> *ibid.*, p. 13.

<sup>265</sup> For a fuller outline on the aesthetics of electronic colour see, Herbert Zettl (1973), *Sight, Sound, Motion: Applied Media Aesthetics*, Wadsworth Publishing Co.; Belmont, California, pp. 57-95. For a computer specific outlook see, Richard B. Norman (1990), *Electronic Color: The Art of Color Applied to Graphic Computing*, Van Nostrand Reinhold, New York, especially chapter 4: 'Electronics as a Source of Color', pp. 71-92.

And while the point may be contentious, electracy has reached the stage where it might be impossible to unravel, into a single conceptual frame, the quilt-like character of the codes used in its productions. In a computer environment for instance, electronic productions can chose 'from a palette of over 16 million colors.'<sup>267</sup> An endlessly additive/subtractive form of colour is difficult to pare down to an essential meaning, it can only be analysed in a set of '*arbitrary*' relationships within a system of images dictated by the particular work of art.'<sup>268</sup> The 'arbitrary relationship' between codes also forms a significant backbone in the inter-syntactical structuring of a great deal of electronic information.

## Narrative, Moment, Infinity

Narrative is the language of destiny.<sup>269</sup>

Roland Barthes

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<sup>266</sup> Cf. 'In teletheory the two styles of cognition — analysis and pattern — are not mutually exclusive but in alliance.' See, Gregory Ulmer (1989), *Teletheory*, p. 83.

<sup>267</sup> Richard B. Norman (1990), *Electronic Color*, p. 77.

<sup>268</sup> Sergei Eisenstein (1968), 'Colour and Meaning', p. 120. [Italics in the original].

<sup>269</sup> Roland Barthes (1977), 'Introduction to the Structural Analysis of Narratives', in *Image-Music-Text*, essays selected and translated by Stephen Heath, Fontana, London, p. 94. [The quote is a paraphrasing of Barthes' words].

Walter Benjamin's opening line in *The Storyteller* that, 'in his living immediacy [a storyteller] is by no means a present force', is an odd comment.<sup>270</sup> The 'death of storytelling' posited by Benjamin may be another variant of what Agnes Heller has alluded to as the death instinct in this or that knowledge formation (history, for instance), and in real contexts.<sup>271</sup> The connection between history and narrative though is clear: both rely primarily on the temporal and logical arrangement of fragments of information. In a whole range of contexts though, stories and storytelling, despite reports of their death, are very much alive. Various forms of electracy both challenge, confirm and extend narrative construction.

Destiny, with its eye focussed firmly on the future, gives precedence to the temporal arrangement of information, some of which can be put under the category of narrative fiction. The various components of narrative construction: plot and story; cause and effect; beginning, middle and end; time and space; the hero's journey etc. have come to dominance partly through David Bordwell and Kristin Thompson's influential articulation of cinematic narrative in *Film Art*.<sup>272</sup> The *Film Art* story itself relies on a vast literature in narrative theory surrounding the novel, poetry, and the theatre. Forms of electracy theoretically and practically mimic some of these ideas about narrative.

While it is possible for *Film Art* to grate, it is still the most elegantly simple outline of narrative construction there is in film studies. The book exists among an Alexandra Library of material on narrative and has formed the centrepiece of many an introductory film appreciation class. It is this latter aspect which has been the source of the book's power. This history of narrative has been well covered and I

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<sup>270</sup> Walter Benjamin (1973), 'The Storyteller: Reflections on the Works of Nikolai Leskov', in *Illuminations*, trans. by Harry Zohn, Fontana, London, p. 83.

<sup>271</sup> Agnes Heller (1990), 'Death of the Subject', in *Thesis Eleven*, #25, pp. 23-38.

<sup>272</sup> David Bordwell & Kristin Thompson (1993), (4<sup>th</sup> ed.), *Film Art: An Introduction*, McGraw-Hill, New York. See especially, chapter 3: 'Narrative as a Formal System', pp. 64-101.

do not need to go into it here. The question is not that there are no stories any more (there are), it is: how does electracy change the nature of narrative construction?

Forms of electronic storytelling both explode and regurgitate more traditional forms of narrative. Many of the latter forms assumed a clear-cut empathy between the reader/listener/viewer and the work itself. Both synchronously and contrarily, electronic storytelling helps re/create '... the experience of telesthesia — perception at a distance.'<sup>273</sup> It could also be a kind of ironic empathy. While time-dominant literate based narratives pushed logic and emotion apart by the 'separation of the observer from the observed',<sup>274</sup> electracy reunites logic and emotion (among other things), a process that calls for a redefinition of narrative construction in electronic contexts. Electracy might even say narrative logic is an emotion.

Narrative emphasis on the temporal arrangement of information has a particular moral outcome. The urge to draw a moral thread through the various connected narrative elements remains a strong one. Hayden White explains:

The demand for closure in the historical story is a demand, I suggest, for moral meaning, a demand that sequences of real events be assessed as to their significance as elements of a moral drama.<sup>275</sup>

While there certainly are differences between *history* and *story*, and between *reality* and *fiction*, Americans have a shorthand idiom for this moral yearning: "We have closure". We could take this a step further and use the word *enclosure*, which is to say that narrative puts a moral and sometimes an ethical barrier around a topic or issue. Morality and ethics (religious, political, sexual, etc.) are called into play in

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<sup>273</sup> McKenzie Wark (1994), *Virtual Geographies*, p. vii.

<sup>274</sup> Raymond Gozzi Jr., & W. Lance Haynes (1992), 'Electric Media and Electric Epistemology: Empathy at a Distance', p. 220.

order to mark out the domain of allowable truths circulating in a story's interpretative orbit. Morality is a significant means of closing down the circulation of information on a given topic.

This has the effect of relegating the morality play given up by any story to certain qualified groups. Certain groups then only encounter certain stories. Even among the many tortured conflicts it produces, every culture approves and disapproves of which of these groups are its politically sanctioned storytellers. It is through the narrative act that morality becomes a means of both social and subjective management and control. This is possibly one of the reasons James Joyce wrote *Finnegan's Wake*.<sup>276</sup>

Various forms of electracy such as video, the WWW, radio, music, digital photography, etc. almost certainly take on this coercive edge. In the process though they make both real and abstract boundaries less discernible. These forms do this by creating a narrative spatialisation of *temporal discontinuity* in the totality of electronic data presented. Pornographic home-video footage (along with a variety of associated forms: microscopic images of our own cancerous or pregnant bodies, or our own sound recordings, for instance), form one edge of this data domain. The images from the Moon landing give us another realm of a grainier and more distant frontier. If the process of colonisation was to gain power over real space, electracy is the process of gaining power over the more abstracted spaces of the pixel↔wisdom continuum.

Scattered throughout this mammoth bank of aural/textual/iconic material are assassinations (Kennedy, Martin Luther King, etc.), creatures that live on the bottom

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<sup>275</sup> Hayden White (1987), 'The Value of Narrativity in the Representation of Reality', in *The Content of the Form: Narrative Discourse and Historical Representation*, John Hopkins University Press, Baltimore, Maryland, p. 21.

<sup>276</sup> For a more elaborated outline of the relationship between synesthesia, *Finnegan's Wake* and electronic media see, Darren Tofts (1998), *Memory Trade*, especially chapter 4: 'The Literature Machine', pp. 84-112.

of the ocean, shop and road signs, a dangerous road-crossing at the local school, a cowboy-like four-wheel-drive getaway on an American freeway, dingos, space-walks, atomic explosions, the dividing edifice of the Berlin Wall cracking under the pressure of bulldozers, a lone person in front of tank in Beijing.<sup>277</sup> For nearly every pop-song produced there is both a technical and psychic memory-trace. While individually, we may not have electronically experienced every entry on the above list, each and every one of us are in fact a walking database of symbolic history, part of the 'memory trade' in electracity's cultural commodities.<sup>278</sup>

This psychic storehouse of raw material, a subjectively situated and a globally disseminated data-diaspora, available in the here and now, bursts opens and pulls together the spatial logic of near and far, of the inside and outside. Traditional notions of narrative continue inside and alongside the rising importance of this electronically delineated and disseminated spatialisation of information.

Various attempts at producing narrative coherence out of this logically disconnected material relies, in varying degrees, on some measure of subjective interpretation, rather than a limited number of culturally or politically sanctioned narratives. Electronically arbitrated forms of empathy, from both near and far, infused by various forms of historical realism, be they romantic or tragic, comic or

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<sup>277</sup> For just one example of the gargantuan possibilities of commercial stock footage availability see the contents of IMAGE BANK at <[Hwww.imagebankfilm.com](http://www.imagebankfilm.com)H>. [Accessed 18/5/2001]. The *list* is also an important productive protocol in electracity.

<sup>278</sup> On the relationship between database and narrative see, Lev Manovich (1999), 'Database as Symbolic Form', in *Convergence: The Journal of Research into New Media Technologies*, vol. 5, #2, pp. 85-88.

dramatic,<sup>279</sup> allow for the simultaneous co-existence of more traditional, temporally based narrative constructions, with more spatial forms of narrative.<sup>280</sup>

Electracy re-constitutes narrative production as a spatio-temporally configured market possibility (at any given moment there are a whole host of explanatory possibilities — some contradictory, some agreeably similar, some antagonistically dissonant). In doing so various forms of electracy considerably expand the market in competing explanations.

Electronic modes of narrative construction enact a spatial configuration in the intensification of competing *and* an unlimited number of stories available for the explanation of all and sundry. Indeed, for Gregory Ulmer this saturated narrative process has invaded epistemological systems themselves: 'The ingredients of a persuasive argument ... are similar to a good story.'<sup>281</sup> Electracy confuses and confounds, and takes on board, various historically available forms of knowledge production: the essay, the treatise, the meditation, auto/biography, encyclopedias, even the glossary and the dictionary. Instead of obliterating traditional narrative forms, electracy has promoted a renewed interest in narrative theory and practice over the last two decades or so.<sup>282</sup>

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<sup>279</sup> Raymond Gozzi Jr., & W. Lance Haynes (1992), 'Electric Media and Electric Epistemology: Empathy at a Distance', p. 225. This is an encapsulation, and a slight expansion of these authors' ideas.

<sup>280</sup> For a grounding in the spatial structure of narrative in literate forms in see, David Mickelsen (1981), 'Types of Spatial Structure in Narrative', in Jeffery R. Smitten & Ann Daghistany (eds.), *Spatial Form in Narrative*, Cornell University Press, Ithaca and London, pp. 63-78.

<sup>281</sup> Gregory Ulmer (1989), *Teletheory*, p. 49.

<sup>282</sup> For two popular instances of this renewed interest see Mary Purpura & Paolo Pontoniere (1996), 'An Ancient Art Revived', in *The Weekend Australian*, SYTE, November 2-3, p. 6. For an example from the legal arena see Liz McMillen (1996), 'Law's Telling Stories', in *The Australian*, September 4, p. 27. For a more extended coverage see, Janet H. Murray (1992), *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*, The Free Press, New York.

This reconstitution of narrative has elevated the status of the solipsistic narrative, marking out the terrain of the idiosyncratic individual story, the family story,<sup>283</sup> even the local/regional story. The process of montage, so easy in electracy, is a good example of a spatially configured narrative which, since Aristotle, has been powered more by the temporal arrangement of beginning, middle and end, ironically a theory which itself seems based on a subject's birth, life and death.<sup>284</sup> Electronically circulated knowledge inaugurates a more thorough going integration of the two narrative fields: the spatial and the temporal, while simultaneously serving as a focal point in our anxiety over logical and moral cohesion and understandability. When the kids spend hours in front of the Playstation these issues become palpable.

## Auditoria

*Acoustics help optics!* <sup>285</sup>

Sergei Eisenstein

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<sup>283</sup> Cf. with Ulmer's remark 'In teletheory the family story provides the diegesis within which a theory may be invented.' See his (1989), *Teletheory*, p. 167.

<sup>284</sup> Aristotle (1995), *Poetics*, edited and trans. by Stephen Halliwell, Harvard University Press; Cambridge, Massachusetts, p. 55.

<sup>285</sup> Sergei Eisenstein (1988), 'The Dynamic Square', in *S. M. Eisenstein, Selected Works, Vol. 1, Writings: 1922-43*, edited and translated by Richard Taylor, BFI Publishing, London & Indiana University Press, Bloomington and Indianapolis, p. 216.



The more delicate spaces of master-codes sometimes attempt to suppress the chaotic noises both within us and in nature, as well as those from on the street or the battlefield.<sup>286</sup> Dazzling the world with their clandestine vibrations, sound effects, voices, and music from the world's dominions, come to our senses via an infinitely finessed and yet highly refracted 360° pathway. Ricocheting here, there and everywhere, the aural element of electracy synthesises madness and order, without mutilating either.

It is sometimes easy for the civilised ear to deplore as so much noise the 'debased content' of electronic media that comes about because of this contact. In the thinking on this Surround-Sound noise (including Luigi Russolo, Antonin Artaud, John Cage, Jacques Attali, Douglas Kahn, among others), this vast hullabaloo (recorded and unrecorded) stands as a crowning feature of an emerging electracy. This untamed cacophony of FX, voices and music that the microphones barely even capture a portion of, may set the criteria by which historians of the audio-visual chart electracy's emergence, or at least since the time sound has been recordable.

Even as they percolate in tape hiss and digital 'purity', the sounds of traffic, barking dogs, shouting neighbours, thunderstorms, of doors opening and shutting, screams, vacuum cleaners, heartbeats, \_\_\_\_\_, all merge with the textual, the graphical and the iconic, to render the real more real, that is hyper-real.<sup>287</sup> Here madness and the uncontrollable, make aurality the most cosmopolitan element of electracy. Post-syncing the actual words spoken by actors on location, because the noise on the street 'intruded' on the recording medium, and 'atmos' tracks remain

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<sup>286</sup> Cf. 'Eloquence is often won at the expense of "wildness"...' See, Ross Gibson (1992), *South of the West: Postcolonialism and the Narrative Construction of Australia*, Indiana University Press, Bloomington, p. 59.

<sup>287</sup> Cf. 'Realism has not died: it has taken on new forms, including surrealism, hyperrealism, and superrealism.' See, Kim H. Veltman (1996), 'Electronic Media: The Rebirth of Perspective and the Fragmentation of Illusion', p. 209.

ways this uncontrollable information enters the production process. The Sex Pistols might be another.<sup>288</sup>

Sound as an omnipresent signifier (even in John Cage's 4'33" the audience was shuffling its feet, itching to break the silence and shout abuse at him), is the communicative code that both compounds and aerates the other multiple codes of electracy.<sup>289</sup> In its multi-dimensional sensuousness, its untouchability, the aural makes the different communicative codes jell, a sort of synaesthetic mucilage of electracy. At the same time, the aural, be it FX, music or the voice, comes to electracy with its own segmentation intact, it remains its own code.

In this contagion of the aural with the body, and with differing communicative codes, of its second-class status vis-à-vis the image-track, there is a ventriloquist like importance in this aural aesthetic.<sup>290</sup> While a more technical analysis might look at sound waves, acoustics, echo, reverberation, pitch, timbre, harmonies, loudness, attack, sustain, speed, rhythm, etc. there is a more interesting, if vaguer notion of sound that gives electracy a more bottom-up credo than the above mentioned technicalities.<sup>291</sup> It was a conflict that reared its head at the Newport Folk Festival in 1966 when Bob Dylan walked on the stage with an electric guitar. The folk music crowd booed him off because they did not want to be contaminated by machine-made music, or the amplification of an acoustic idiom.

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<sup>288</sup> The Sex Pistols, and many rappers, have no doubt read Luigi Russolo's manifesto, 'The Art of Noise', (originally published in 1913). In, Richard Kostelanetz & Joseph Darby (1996), (eds.), *Classic Essays on Twentieth-Century Music*, Schirmer Books, New York, pp. 35-41.

<sup>289</sup> On John Cage see, Jacques Attali (1985), *Noise: The Political Economy of Music* trans. by Brian Massumi, University of Minnesota Press, Minneapolis, p. 136. See also, Kathleen Woodward (1980), 'Art and Technics: John Cage, Electronics, and World Improvement', in Kathleen Woodward (ed.), *The Myths of Information: Technology and Postindustrial Culture*, Coda Press; Madison, Wisconsin; pp. 171-192.

<sup>290</sup> This idea of sound as a poor cousin to the image is repeated in almost every discussion on sound. For a specific instance see, Mary Anne Doane (1980), 'Ideology and the Practice of Sound Editing and Mixing', in Teresa de Lauretis & Stephen Heath (eds.), *The Cinematic Apparatus*, St Martin's Press, New York, p. 47.

<sup>291</sup> For this more technical approach, see the elegantly simple Robert L. Mott (1990), *Sound Effects: Radio, TV, and Film*, Focal Press, Boston. See especially chapters 1, 2, & 3.

While Margaret Morse characterises this sometimes contaminating influence as ‘oral logic’, it just as easily could be ‘aural logic’.<sup>292</sup> This is the ability of the body to reject/amalgamate a diverse range of familiar, foreign, and/or obscene aural material in the process of incorporation. In an oral sense (and to continue one of Morse’s themes), it might mean sucking the very life out the living via what is put into the mouth: food, drugs, liquid, words and sounds. In another interpretation, aural logic might incorporate and transform this ‘food for thought’ into a kind of *control-track* for the body. All data is raw material for thinking (conscious and unconscious), and for doing and making. The aural, continuous and heard all at once, is a reminder of such a state.

Indeed the sum total of the aural, as both a soundtrack of a subject’s life and as a recurring Mandelbrot-like psychic presence, might be what makes the body metaphysically tick. Aural logic is a kind of corporeal hydraulic that drags one idea into a cognitive relation with another via the multi-dimensional processes of informational incorporation, mulling, and expulsion. This can possibly occur with sound because ‘... our ability to absorb fast-cut, intricately patterned, successive images is not matched by our ability to distinguish and ‘place’ sounds.’<sup>293</sup> Whilst studio recording has attempted to isolate particular sounds for the sake of the clarity of production and interpretation, this is not how we actually experience sound, which is diffuse and dissipative, even with music.

The reason a term like ‘noise’ is still used in an aural context is this fact that we psychically experience sound simultaneously, all the time. This is reflected in electracy’s productive capacity to ‘sound mix’ a large number of tracks. 16-track and 48-track, for instance, refers to the number of audio tracks that can be laid down in a given production, with computer technology increasing the number of

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<sup>292</sup> Margaret Morse (1998), ‘What Do Cyborgs Eat? Oral Logic in an Information Society’, in *Virtualities: Television, Media Art and Cyberculture*, Indiana University Press; Bloomington and Indianapolis, pp. 125-151.

<sup>293</sup> Roy Armes (1988), *On Video* Routledge, London, p. 183.

tracks available to producers. The range the human ear can actually hear though limits this expansiveness: from just a few cycles at the bottom end to around 20,000 cycles at the top end. Nonetheless, within this range, the multilayering capacity of the aural dimension in electracy is a significant meaning-maker in its productive capacity.

## Direction

While the auteur theory of filmmaking made a cogent attempt to elevate the director to the top of the audio-visual production pile, the mantra of *collaboration* continues apace, in both film and electronic production.<sup>294</sup> In any production, the actual role of the director changes from context to context. In some cases it can assume an auteurist-like autocracy, where the director assumes control over all, or most aspects of a production.

In other cases, delegation from a producer or director might leave particular departments free to make their own creative decisions. Possibly in electronic production though, the central creative team of producer, writer, director, cinematographer, editor, sound-person, all contribute to the final *feel* of the finished program. While there are certainly many problems with cooperative work in creative contexts, electronic production has the technological infrastructure to make it happen cognitively as well as practically.

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<sup>294</sup> A good example of this emphasis is the collection of essays in Jolene Galegher, Robert E. Kraut & Carmen Egido (eds.), (1990), *Intellectual Teamwork: Social and Technological Foundations of Cooperative Work*, Lawrence Erlbaum Associates, Hillsdale, New Jersey.

The one area that directing is mostly responsible for though is the *performance* aspect of an electronic program. Certainly, the *mis-en-scene*, amongst other things, is under the influence of the direction process, but even this particular aesthetic aspect is constituted by sub-sets like costumes, set design, and cinematography; it is the very diversity of the electronic form which upsets directorial hegemony in electracy. A director simply cannot be on top of all the aspects of a production. There is, in that moment when a director communes with an actor though, a collective cultural space that is opened up and a *performance* created.

David Attenborough's performance in many a nature documentary, while easy to satirise, is a revelation of commitment, energy, knowledge on the part of his *performative-body*. This performative aspect of electracy is repeated in almost every *body* appearing in electronic contexts, as it is in other performative contexts like the theatre. Every body will mark out a performative space, internally and externally.

The performative could be spelt out as that combinatory interaction of character, gesture, speech, clothing, and hairstyle, and cited as the body in mental and physical action. While the scriptwriter can put words on the page as indications for how and what the character is to speak, possibly even indicating gesture and dress, it is the directing process that interprets how that basic plan is finally arranged for the camera to record.

Reproductive technologies have ably assisted in popularising this prehistoric body-printing process by letting us preview, record, and review our own performance in the world. With the electronic camera, all 6 or 7 billion contrasting

performances are potential ways of '*being in the world*'. If role-playing was communally centred in oral societies, it was the literate tradition that commenced the global expansion of both the twin elements of role-playing and role-modelling.

Electracy easily condenses a synthesis of the latter two elements by providing for a kind of "World as your Oyster for 15 minutes ...". The participants in the first Australian *Big Brother* series: Sharna, Todd, Lisa, Jemma, Gordon, et. al. (every one of us is now a disciple of Andy Warhol's epithet: '15 minutes of fame'), are a direct result of this performative process, the most obvious bodily fixated element of electracy. In oral societies, the tenants of the *Big Brother* house might be classified as clowns poking fun at both the population and power by gleefully mimicking and satirising the latter's own performance. While now even parliamentary politics and performance are closely linked, the more interesting question remains the connection between performance and the small 'p' political. The heavy density of performative representation in the electronic arena sometimes forces this small 'p' political solipsism on us.

In this sense, performance is that most ancient of signalling systems, the successful engagement in which is the degree of self-consciousness brought to its operation. We all perform for the world, but the degree to which we mentally design that presentation is a mark of that self-consciousness, and subsequently, the way it transforms that self knowledge into bodily action, be it for the camera or 'life'. Because each and every human has a unique performance to offer the world (a huge market from one angle), one very quickly learns if your own performance is socially acceptable or not.

The term *media-savvy* is now an important element of the performative in electronic contexts. As the first directors of our own performance we, all of us, remain captive to the electronic performance if called upon to do so. As always, our

own performance is a mark of our sociological splinterings: class/gender/race/education etc. A *media-savvy performance* is a direct means to power in conditions where electracy is the predominant mode of knowledge production and one needs access to the corridors of power.

And it is here, at this junction of the performative and electracy, with its infinite array of possibilities in interpreting how humans act in the world, that electracy has made a significant transformation to the electronic performance process and its sibling — the media personality. Since at least the ‘birth’ of *Max Headroom* in the 1980s, (one of the first fully realised ‘electronic personalities’),<sup>295</sup> electronic production has had the choice of constructing the screen performance of a character — its psychology, gestures, movements, dress, physiognomic attributes, speech etc. totally from within the electronic apparatus itself. Certainly, the process of finding ‘talent’ i.e. locating an actor who is as empathetic to the scripted character as possible, is still a dominant one. Computer animation, a significant form in electracy, has allowed this extension of the performative into the machine itself.

*Max Headroom*, though, spelt out the possibility that in electracy performance could be constructed almost entirely from a directorial perspective, one located technologically as much as socially. The increasing popularity of cartoons, computer/real footage interactions, and animation generally constitutes the result of *Max Headroom’s* legacy. Electracy brings into tighter focus the human urge to tirelessly re/construct character, along with its performance, both in the real world and on the screen. If the gods were the models for character construction in oral societies, these gods have landed on earth as malleable human/machine interfaces in electracy. While the literate domain may tend to down play the performative as the pinnacle of surface phenomena, *Max Headroom’s* genealogy can be traced, at the very least, back to Zeus.

In the process, electracy has contributed to the unmooring of 'real' character from imagined or virtual ones, the latter of course has constituted such a large part of the success of the WWW — at least of its chat-lines, MUDs and MOOs. At the same time though, electronic connectivity, operating in surveillance mode, can trace any erotic, economic or criminal infringement manufactured as a result of the multiple identity syndrome back to a real computer. Without electracy, there would possibly not be any Elvis-Look-a-Like contests.

As a cognitively located system, electracy produces significantly higher levels of metamorphosis in caractereological change, both real and virtual. This occurs simultaneously with the recycling of older characters: vividly created literate based characters like Becky Sharp, Huck Finn, and Scrooge, live on in electronic contexts. But it is the *Zelig*-complex that makes the best case for the electronic construction of character. Zelig, the central character in Woody Allen's film of the same name, psychologically morphs himself into any number of characters he gets close to. It is in the creative relationship between the director and the actor where this caractereological morphing is most acutely played out. While an actor is sometimes praised for a commanding performance, the social and psychic consequences of performance can sometimes have a quite different effect.

## Editing

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<sup>295</sup> For two differing takes on the *Max Headroom* phenomenon see, Deborah Smith (1986), 'The Cult of *Max Headroom*', in *The National Times*, March 21-27, p. 12; and Andrew Ross (1990), 'Techno-Ethics and Tele-



It is perhaps in the process of editing that the actual practice of the synaesthesia of electronic production is most clearly played out. A cursory look at almost any textbook on editing makes mention of an editor's responsibility to seamlessly amalgamate the 'spatial, temporal, rhythmic and graphic relations' (to use Bordwell and Thompson's suggestive categories), of any given audio-visual text.<sup>296</sup> (It should also be mentioned again that it is here in post-production that the layering effect of sound-editing is also carried out.) In any case, it is sometimes easy to think editing is where it all comes together and hence it can be perceived as *the* exalted skill in electronic production.

While the plasticity of combinatorial possibilities in editing certainly points to its synaesthetic qualities, as a process it remains just one in the coterie of skills and techniques making up electracy.<sup>297</sup> Electracy, then, can be made up of specialist disciplines e.g. editing, camera, writing, directing, etc., as well as being a multi-skilled arena. Even a specialist editor can gain a clearer insight from having shot some pictures and collected sound in the field. A worker in electracy may or may not want to be a 'Jack or a Jill of all trades' but it is essential they have an advanced knowledge of the broader field so as to actively participate in electracy's melody of specialisations.

While the straight cut is the pre-eminent mode of getting from one shot to the next, it is possibly the *dissolve* that is the more appropriate barometer of the synaesthetic skein of electracy. Certainly, each distinctive shot, sound, line of programming, or graphic overlay, serves as a singular component in the sum total

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Ethics: Three Lives in the Day of *Max Headroom*', in *Logics of Television: Essays in Cultural Criticism*, Patricia Mellencamp (ed.), Indiana University Press, Bloomington, pp. 138-155.

<sup>296</sup> David Bordwell & Kristin Thompson (1993), (4<sup>th</sup> ed.), *Film Art: An Introduction*. See especially chapter 7: 'The Relation of Shot to Shot: Editing', pp. 246-290.

<sup>297</sup> On this point of 'plasticity' see, Noël Burch (1973), *Theory of Film Practice*, trans. by Helen R. Lane, Secker & Warburg, London. See especially chapter 3: 'Editing as a Plastic Art', pp. 32-48.

of the collected material of a given production (in editing, this sum total of singularities is referred to as the log). Editing then is generally a process of selection, refinement, reordering and rejecting constituted by the cognitive process (narrative or otherwise) going on in the shepherding of these singular informational artefacts through the pixel $\Leftrightarrow$ wisdom continuum and into a final program.

While each entry on the log sheet may be self-contained, the principle task of editing in the electronic domain is to bleed these singularities into one another and form a program of some kind. Because of the way the dissolve can layer image on image, sound on sound, colour on colour, etc. it is emblematic of this bleeding process where these singularities are transformed into what looks and sounds like an organically grown whole. It is also in this final editing process that aesthetic production tries most forcefully to mimic the processes of nature.

The engine of this synaesthetic mimicry is again the body, this time the 'gut'. One of the most often repeated comments to be heard in editing rooms is that if an edit works, the rationale is based on 'gut instinct'. No doubt, a range of interpretations could be put on this kind of remark. My spin on it is this: faced with a whole host of meaning systems simultaneously in play in any given editorial decision, an editor almost has no choice but to let the body respond to a given choice. Performance, colour, the various permutations put into play by both the image and the possible sound-track, exits and entrances, indeed all the synergistically dynamic elements of a program, are in play in an editor's body; they generally have consumed each remnant of the program a number of times. If the subsequent 'feel' of the edit is positive, it remains a successful edit, even if overruled by a director or a producer.

Walter Murch, a well-known feature-film editor, puts the same idea in the following way: 'Editing is a kind of dance and this depends on engaging as much of the editor's body as possible.'<sup>298</sup> While a conscious goal-orientated rationality does work in the editing room, the instinctive remains the province of the whole body, and of its model of a corporeal integration and reciprocity, a process most ably demonstrated by aesthetic production of all kinds. And it is in the editing room that the full force of the socio/political/economic agenda of electracy returns with a vengeance.

## **Marketing/Distribution/Exhibition**

If Andrew Wernick is accurate in his claim that the 'promotional condition' has imbued discourses of every persuasion, then this is most obvious in the marketing, distribution and exhibition spectrum of electronic production.<sup>299</sup> In lumping together these three important areas of cultural production, it should not be thought that I am diminishing their influence in the creative process. Letting people know about artworks, the channels of their distribution, and their possible arenas of exhibition, are not merely add-ons to the production process, but are intimately tied in with it. Indeed, they possibly should come first.

The capital and labour intensity of electronic production has ensured that marketing, distribution and exhibition are certified production protocols. Indeed, the highly malleable nature of marketing (for example its ability to create a perception of a given work in the audience's mind), is another exemplary form of electracy. These business practices are now unambiguously part on the aesthetic

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<sup>298</sup> Walter Murch (1992), *In the Blink of an Eye: A Perspective On Film Editing*, Australian, Film, Television and Radio School, Sydney, p. 81.

agenda.<sup>300</sup> Arts funding bodies increasingly ask for marketing, distribution and exhibition plans at the very beginning of the funding process.

While there is no room here to deliver a more fully argued outline of these various business aspects of electracy, one important thing emerges from this notion of electracy as an increasingly important element of commerce. The rarefied world of aesthetic abstraction, untainted by recourse to the highly competitive world of business is a quaint anachronism, kept alive by the romanticism of a great many artists, electronic or otherwise. The skills, techniques and knowledges of electracy are as necessary to PR and marketing professionals as they are to artists.

In a similar manner to the electro-dollar in its ability to flit around the globe in microseconds, the electronic artwork can take its cue from this. By dematerialising instantly in the copying process, the electronic artwork can *re-materialise* at any spot on the globe where technical and other conditions allow it. The electronic artwork as a commodity, then, has freer rein in this marketing/distribution/exhibition phase: it can at least keep pace with the speed of electro-currency. Material artistic commodities have a much slower trip around the globe via sea, rail or air. As a result, producers now sometimes tie up more money in the marketing/distribution/exhibition phase of electronic artworks than they do in the actual productions themselves.

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299 Andrew Wernick (1991), *Promotional Culture: Advertising, Ideology, and Symbolic Expression*, Sage Publications, London. See especially chapter 8: 'The Promotional Condition of Contemporary Culture', pp. 181-198.

300 Three examples of this emphasis are, Meredith Quinn & John Colette (eds.), (1997), *The Business of Electronic Publishing*, AFTRS in conjunction with Allen and Unwin, Sydney. Another is Peter Callas (1993), *International Guide for Electronic Media Art Distribution*, Australian Film Commission, Sydney. And for a purely business perspective, electronic artists would do well to consult the Kennett Government commissioned (1997) Business Victoria publication, *The Art of Strategic Planning: Visions and Strategies for Cultural Organisations*, a highly detailed modular kit outlining how an arts organisation/business should be set up and run.

## Endnote

Throughout the entire course of human history artists have always relied upon a range of technologies (and their associated technical processes), cultural/political currents, and a multitude of ideas and impulses to help them materialise psychic phenomena in artistic commodities. This is why, in the current electronic era, concern over techno-anxiety is misplaced:<sup>301</sup> both scientists and artists have been, and are constantly adrift in these multiple sources of inspiration and practice in order to realise their aesthetic ambitions.

Even before the advent of the modern scientist — ochre, gum-resin, wood, soil, stone etc., formed the basis of ancient aesthetic technologies. The electronic era is certainly an intensification of this relationship to technology, to politics and culture, and even to psychical processes. With the computer at the centre of this high-octane intensity, even *New Scientist* once screamed from its front cover: 'WATCH OUT — This Machine Could Steal Your Soul!'<sup>302</sup>

Discussions on the 'soul' have always figured prominently in the question of aesthetic labour because it is thought to be the source of the impossibly ineffable nature of psychic phenomena, and the aesthetic impulse itself. This 'soul' — an essential self in hiding maybe — is also the source of the artist's traditional antagonism to commerce. The intensifying proliferation in the production of electronic commodities places a whole host of elements: 'soul' or 'self', 'technology' and 'commerce' etc. within the same psychical proximity. And nearly all cases of artistic labour can be characterised as a consummation of these variables of the

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<sup>301</sup> For a good outline of this idea see Peter Lunenfeld, (1997), 'Demo or Die: Performance Anxiety and the Digital Artist', in *Afterimage*, vol. 25, #3, (November/December), pp. 12-13.

<sup>302</sup> The article to which this cover refers is Bob Holmes (1997), 'Requiem for the Soul', in *New Scientist*, 9 August, pp. 22-27. It tells the story of David Cope, a composer who has developed a computer program that has 'composed' Mozart's 42nd Symphony.

aesthetic self marked onto a *surface* of some kind. The electronic artwork is an attempted synthesis of a whole host of differing productive forces.

These surfaces can include: stone, paper, bark, canvas, wood, tin, glass, plaster, iron, brick-wall, silk-screen, parchment, magnetic tape, hard drive, disk, ... even the body and thus the skin. One of the most grandiloquently narcissistic of surface inscriptions would have to be Christo's cloth and plastic coverings of various landscapes around the globe. Architects inscribe space itself with their buildings. Indeed, an artist might see the globe as a tableau, the object of a wholesale urge on the part of human culture to aesthetically gazette the surface of the earth. Globalisation can be viewed from an aesthetic, as much as an economic or cultural point of view.

In the case of electronic production, that surface is made up of pixels, of bits and bytes, of 0s and 1s. The electronic era can best be understood as a technological phase wherein the corporeally limited possibilities of the sensate world, and its aesthetisation, give way to the technically expanded macro- and microcosmic world of the pixel↔wisdom continuum. Those parts of the real that have remained undetectable by human sense perception, for example the genetic code and the surfaces of distant planets, the bottom of oceans, are brought into popular realms of cognition by a whole variety of production protocols accessible to electronic aesthetics. It is not that the real is obliterated here but rather that it is cognitively extended through electracy's utterly dynamic radial-logic. In short, electracy can telescope, into ordinary and intense forms of cognition, both invisible and faraway times and places. This elevated intensity of an electronically arbitrated sensibility is aided and abetted by the vast array of aesthetic practices electracy encompasses.

After a discussion on Galileo, and in reference to ‘... the *psychological* problems raised by ... telescopic observations’, Paul Feyerabend long ago recognised this mutable relationship between cognition and the object world was an issue some standing:

Not knowing what to expect (after all, one doesn’t meet man-sized fleas on the sidewalk), he is unable to separate the properties of the ‘object’ from the ‘illusions’ created by the instrument (distortions; coloured fringes; discolouring, etc.) and he cannot make sense of the objects themselves. On the surface of the earth — with buildings, ships etc. — the telescope will of course work well; these are familiar things and our knowledge of them eliminates most distortions just as our knowledge of a voice and a language eliminates the distortions of the telephone.<sup>303</sup>

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<sup>303</sup> Paul Feyerabend (1978), *Against Method*, p. 119.

# FORKING CONCLUSIONS

Every psychological activity is  
anacritically dependent upon a  
biological function.<sup>304</sup>

Didier Anzieu

The fluid nature of the everyday, into which electracy has percolated so thoroughly if not so knowingly, is now largely devoid of the overt influence of the cosmological element of the kind undertaken in oral societies. It is also a knowledge system wherein the more highly refined literate abstraction of institutions like universities, law-courts, parliaments, churches and the like, are the objects of a kind of primal ridicule. This destabilised relationship between a subject and the State (in this case, all the above institutions taken as a whole) has been intercepted and overtaken by a more thoroughly intense relationship between the

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<sup>304</sup> Didier Anzieu (1989), *The Skin Ego*, p. 40.



body and that institution that mediates all of the above mentioned categories — electronic media.

The fact that *electronic media* is nearly always referred to in the *plural* should serve as a symptom for the idea that this relationship is not merely a one-to-one affair. The aesthetic arrangement of data in media content is an important component in understanding this radially dynamic relationship. I have just spent nearly 20,000 words attempting to briefly explain some of the key components of this arrangement impulse, this electronic ‘inventio’, as Gregory Ulmer refers to it.<sup>305</sup> The intensity of this relationship to electronic production and consumption is sometimes no more than a fleeting psychic blimp. At other times it is an active engagement.

Be it a blimp or a long-term relationship, residing in this momentary instant of contact between a body and electronic data is a frisson of ecstasy, a sublime moment wherein anything and everything is possible.<sup>306</sup> It is here, in this moment of transition, where pleasure is made manifest. And the result of this subjective congress with electronic forms of beauty is that the visceral element of subjectivity is institutionalised as a primary tool of political and cultural rationality. It is not just the brain, but also lungs, blood, heart, skin, stomach and intestines that are the source of influence in the electronic production of beauty. All of these also influence voting patterns and behaviour. In electracy, the brain too becomes part of this proprioceptive system as much as determining it; it is a muscle in constant need of informational exercise. Ecological rationality shares this dynamic momentary ecstasy in its ability to *consider everything* via contact with a single element.

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<sup>305</sup> Gregory Ulmer (1989), *Teletheory*, pp. 14, 137, 165, 177. Also, Ulmer’s own ‘inventio’ itself is electronically incomplete, his literate work might work better recast as a computer game.

The rationale of electracy as code for *considering everything* is this: in the areas of production, distribution and consumption, electronic knowledge seeks not to articulate a clear linear logic, a traditional hallmark of more abstracted forms of literate logic.<sup>307</sup> Rather, electracy presents a wide-ranging number of logics in a much looser methodological knit of epistemological, axiological and ontological proximity, all caught up in a corporeally linked network of dis/associations. In the process, the structure for the production of electronic knowledge, as much as its content, is now more than ever a highly politicised subjective field in both ideologically and methodologically riven senses.

And it is this logical multiplexity of electracy that makes this sublime moment of contact with electronic forms of data so dangerously seductive, because while it is sometimes virtual contact with another body, it is also contact with another system of thought, another culture, another place. The logic of the sequentially coherent splays in a whole host of directions while at the same time keeping this sequential logicity intact, even if it is a somewhat vaguer version. These splayed moments are then piled high on each other ad-infinity, cross-referencing each other in multiple forms of pattern-making representations, leaving in their wake traditional notions of reality.

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<sup>306</sup> I am here paraphrasing Dave Hickey's account of his first conscious realisation about the centrality of beauty, both politically and aesthetically, to visual art. The quote goes: 'I insisted that beauty was not a *thing*—"the beautiful" was a thing. In images, I intoned, beauty was the agency that caused visual pleasure in the beholder ...' See his, (1993), *The Invisible Dragon: Four Essays on Beauty*, Art issues. Press [sic], Los Angeles, p. 11.

<sup>307</sup> This process is sometimes referred to by the inadequate term 'Postlinearity'. See, Armand Mattelart & Michèle Mattelart (1992), *Rethinking Media Theory: Signposts and New Directions*, University of Minnesota Press, Minneapolis, pp. 48-56. I prefer the term 'multilinear' as the term 'post' refers far too much to historical sequentiality.

It is in this sense that the sum total of the various methodologies (*all* of the fields of knowledge through which humanity understands the world) are in a continually variable process of psychic, social, political and cultural conflict, and/or negotiation and/or agreement. This process of continual conflict/negotiation/agreement foregrounds movement (a process of adaptation in both real times and spaces, a condition most ably produced in both narrative contexts and in the broader field of evolution), and not methodological or ideological fixity. In electracy, a great many discursive rhythms are simultaneously present: overlapping, interacting, arguing, jostling for the short attention span of both producer and consumer. The limits to these abstract movements in knowledge production and consumption are the globalising structures of capitalism, and for the moment at least, the natural world itself.

Electracy's positioning of the body (of its micro-components in the proprioceptive system) at the epicentre of the production and consumption of electronic knowledge is also significant in that it helps to both dissolve and elevate the mind/body dichotomy. If this dissolution/elevation allows the concept of the *corporeal* to arrive with too much abstract baggage, a synonym is adequate for this explanatory function — the biological body. To the extent electracy combines the body's materialist *and* abstract impulses, it is the classical symbol of an interactive system. Combined in this cutaneous proximity are the neurological, the skeletal and digestive components, and the sensorium, along with the reproductive and vascular systems. What you have in the body is a complex multi-logical system. And it is the Human Genome Project that attempts to remodel the body's complexity as a *systems complex*. Indeed, in some ways the Human Genome Project is an archetypal form of electracy in the sense that it is a globally organised means of knowledge production based squarely on the minutiae of the body's messaging system — genes.

The fact that the body ‘works’ in this collective configuration of systems is still beyond scientific and artistic comprehension. If it could be comprehended, ‘life’ would be explained. It is this very incomprehension after so many centuries of dissection (both physical and metaphysical) that sets up the body as both the subject and object of metaphor, myth-making, futurological analysis, and prescriptive fantasies, all of which are now directed to its very own construction, continuation and re-production. Electronically structured knowledge helps to turn the democratically completed subject into a *body*, and its constituent interactive elements. It is in this sense that our political structures lag way behind the psychology of our communication structures. Popular consciousness has taken up this transformation from subject-hood to body-consciousness, possibly even initiated it, with a vengeance. A citizen is now more a *body*, than a *voter*.

Aesthetic production brings us face to face with this corporeality — at least of the body’s birth, life and death. One consequence of this is that the aesthetic is also a yearning for immortality. This temporal ordering is closely linked to narrative processes and not only alerts us to the body’s physical extinguishment but also to the body’s symbolic continuation past death and into the future. Electracy, as one form of the aesthetic, serves to tell us very clearly that the *political* resides less in collective formations but primarily in subjective processes. This much has been reiterated again and again in discussions on electronic forms of knowledge. While somehow the above is an obvious statement, it still needs to be reiterated again and again.

What remains of the collective are interconnected fragments of class, gender, age, income level, employment status, race, ethnicity etc. This indiscriminate concatenation of the collective into a host of sub-groups and categories has been

aided and abetted by electracy — a process that opens each one of us to every other monad on the globe, even more so than the above mentioned categories. In doing so we meet each other (in representational terms, if not in reality) on a body-to-body basis. In electronic forms of mediation this creates the powerful allusion that we actually ‘know’ characters we meet only in a fictional electronic sense. ‘My love story’ might serve as one example of this process, my ‘hatred’ of John Howard or Paul Keating another.

This sense of a one-to-one relationship (aesthetically mediated) with each and every *other* on the globe marks out the most remarkable transformation brought about by electracy. Naturally enough it is that Old Grouch of postmodern theory — Frederic Jameson, who has recognised the consequences of this electronically mediated one-to-one-ness in the current era. In an aptly titled essay: ‘Surrealism Without the Unconscious’ (on mainstream and experimental video) he says that:

... one would want to defend the proposition that the deepest “subject” of all video art, and even of all postmodernism, is very precisely reproductive technology itself.<sup>308</sup>

With electracy, we are in a primal vanity-land, replete with proliferating information, of a multitude of selves (individually/collectively), in an ‘Ocean of a Stream of Stories’, all encased in globalising cultures and polities.<sup>309</sup> Sutured through these developments is the increasing turbulence surrounding our relation to nature, a relationship that partly is responsible for entwining electracy in a move from more fixed terrestrially grounded explanations to aquatic-symbolic ones.

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<sup>308</sup> Frederic Jameson (1991), ‘Surrealism Without the Unconscious’, in *Postmodernism, or, the Cultural Logic of Late Capitalism*, Duke University Press, Durham, p. 95.

<sup>309</sup> Salman Rushdie, quoted in Edward R. Tufte (1997), *Visual Explanations: Images and Quantities, Evidence and Narrative*, Graphics Press; Cheshire, Connecticut, p. 120.

While the phrase 'reproductive technology' could easily be read as referencing in-vitro fertilisation and its associated techniques, from an aesthetic point of view, reproduction can mean more than the actual processes of birth and conception, or their medical manipulation. Electracy is, no doubt, about a whole range of things. However, one important aspect of it is that it provides the conceptual conditions for the aesthetic manipulation of a subject's own reproduction to gain legitimacy. As in primarily oral or literate contexts, electracy is a way of modelling a 'self in the world'. The difference now is that while psychic, cultural or political manipulation is always taking place, these reproductive elements (representational and medical) can now be combined with the possibility of *actual* corporeal copying and/or rearrangement. Genes, pixels, bits and bytes, 0s and 1s are companion ideologies and technologies.

Electracy's aesthetic modelling of a 'self in the world' lays the psycho-ideological groundwork for the material manipulation of a subject's genetic actuality. Modernity's foregrounding of the whole subject, and subsequently Postmodernity's positing of the split, nomadic, incomplete, or multiple subject, has created the conditions, across a range of levels, for the advent of the *consciously* constructed genetic subject. The body, or more precisely its re-productive function (as both symbol and actuality), can now forestall the whims of Nature. Under the upcoming Bio-Simulationist stage of capitalism, we will have the technology, and an electronic mind-set, to genetically manipulate ourselves and our offspring to order. Electracy, in concert with the Human Genome Project, turns the body into a digitally decodable edifice, one that can consciously model itself on both its own unknown and known psychic instincts, as these might be distinguished in an electronic representational archive or a genetic databank. A single gene, and a single bit or byte, seem to me to be equitable in formal terms by their ability to be the building blocks of either an informational environment or the body.

While science has been busy creating the technological conditions for this genetic manipulation to occur, aesthetics generally, and electracy in particular, has been creating the psychic conditions for the inauguration of this genetically modifiable subject into the field of knowledge production and consumption. From a Postmodern perspective, with its accompanying global reach of electronic data, the aesthetic becomes central to the dual acts of production and consumption. Dynamic forms of capital can equal dynamic forms of self-making. Electronic aesthetics provides the network connection (cognitively and symbolically) for the actual biological re/construction of subjectivity.

Indeed, electronic aesthetics becomes a pivotal mechanism through which capitalism itself regenerates. The reaction produced by the 'ugliness', or the 'diseased' quality of the Fordist era of capitalist expansion in turn reproduces the turn to electronic beauty, or as David Hickey says, '... the iconography of desire ...'<sup>310</sup> Beauty, and not merely the *beautiful*, is at the heart of the aesthetic. As Hickey also demonstrates across the span of his book, this has been the case in the past and is even more so now, and not just in the visual art praxis he makes reference to.

With electracy, notions of beauty take on not only a more popular and widespread coverage, but also opens up its definitional status. Modernist ideals of beauty were primarily confined to the art galleries and the upper classes; a proper sense of proportion and symmetry, of keeping chaos in order. A Postmodern definition of beauty would add to the above, objects of the grotesque, of the carnivalesque, the caricatured, the violent and the cliqued, even of the excremental. This widening of the definition of beauty not only takes on the traditional aspects of say of the perfect masculine or feminine form, the most pleasing landscape, or the

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<sup>310</sup> Dave Hickey (1993), *The Invisible Dragon: Four Essays on Beauty*, p. 12.

most imposing piece of architecture. The appetite for beauty can never be sated — the various forms of electracy allowing for its production and consumption to be continually expanded, at least until the global ideas market is itself exploited to the full. This attraction to the electronic can accommodate the eerie juxtaposition of home-made pornographic videos of ‘ugly’ people, or a banal wedding, with the video bashing of Rodney King, along with car crashes, and the revered British drama, *Edge of Darkness*. Electracy allows us to see the constantly repeated image of the mushroom cloud of a nuclear blast as a strangely beautiful image.

Beauty then, under electronic conditions, is anything which viscerally effects the subject — quite literally anything that turns the gut, squeezes a tear, even energising synapses and colonising the *bodily* processes of reason. As such, beauty can sometimes be more clearly defined by what it does, and not so much by what it is, or as defined by sectional interests in the ‘beauty industry’. The electronic episteme acquaints us with the complexities of what might be termed *quantum beauty*: this is, knowledge production as multi-dimensional spatial play. It incorporates the three dimensions of vision: length, breadth, depth; the fourth dimension of time; and what might be defined as the fifth dimension of the aural. It does this with the added benefit of sequential logicity.

Electronic forms of beauty are not only surface artefacts but can also be domains of immersion: virtual reality is the endgame in immersive forms of beauty. Advanced forms of electracy allow us to cross the scopophilic border of the frame, and psychically at least, actually migrate to the fictional world, a not so futile attempt to transubstantiate ourselves into the actual artwork itself. The immersive desire is to *be*, not just dress or act like, the central character in *Scrutiny in the Great Round*, the Tennessee Rice Dixon and Jim Gasperine authored computer game. The



desire to *live inside a story* and not just look into it from the outside is the psychic impulse underpinning virtual reality.

This process makes the virtual reality experience a primary component of electracy. Knowledge production is now not so much a *thing* — a materialist, Fordist hangover, but equally, a *process*. In a Postmodern context, as Jim Davis and Michael Stack reiterate:

Knowledge costs almost nothing to duplicate, especially if it appears in digital form. As a greater percentage of goods become knowledge, the nature of production as resource-exhaustive, labour-consuming and scarcity-bound becomes obsolete.<sup>311</sup>

Electronic production is increasingly less a socially arbitrated materialist artefact directed at an objective reality;<sup>312</sup> it is an imaginatively intensified ethereal and abstract possibility — a desire for the future, one concentrated on our own individual, or actual genealogical future. Simultaneously, electracy is something of a living entity, possibly the most significant representational effigy today, as well as continuing with the usual financial imperatives that production engenders. Whilst the microcosmos may have produced the conditions for the actual corporeal evolution of the subject, it is now that same human subject that can re-produce (or better still — re-program) its own genetic structure for a more perfect continuation into the future.

How then does electronic aesthetics, and the work it engenders, equate with the genetic manipulation of the future? The desire to slice a cell off Einstein's pickled brain, digitise its genetic make-up in the electronic matrix, encode it, and place an order at the Human Genome Laboratory Inc. may certainly a tempting one

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<sup>311</sup> Jim Davis & Michael Stack (1992), 'Knowledge in Production', p. 10.

down the track. More prosaically though, from the vast storehouse of electronic data comes Julia Robert's hair or lips, Mike Tyson's punch, Jerry Seinfeld's dry wit, Lara Croft's athleticism, *The Royle Family's* slothfulness, and Keith Jarrett's obsession with the piano, may also be enticing. The plethora of genetic possibility on global electronic display is staggering — it is a huge symbolic supermarket of representations, of what is a possible contribution to a genetically modifiable future. This vast globalised electronic database is a cut-and-paste storehouse of genetically actualisable symbolic material, available for use by a subject living under the auspices of a Bio-Simulationist capitalism.

This differentially available global electronic database of representations has an echo in one of Nietzsche's aphorisms from *Human, All Too Human* on the micro-power of press-workers. Written more than a century ago, the following observation could easily be transferred to media workers in today's electronic contexts:

*Use of the smallest dishonesty.* The power of the press consists in the fact that the individual who serves it feels only slightly pledged or bound to it. He usually gives *his* opinion, but sometimes he does *not* give it, in order to help his party or the politics of his country, or even himself. Such little misdemeanors of dishonesty, or perhaps only of dishonest reticence, are not hard for the individual to bear; and yet the consequences are extraordinary, because these little misdemeanors are committed by many people at the same time. Each of these people says to himself, "For such petty services I live better and can make my livelihood; if I fail in such little considerations, I make myself impossible." Because it almost seems that writing one line more or less, and perhaps even without a signature, makes no difference morally, a man who has money and influence can turn any opinion into the public

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312 Within postmodern theory at least there is a significant debate over the demise in the importance of the *social*. For one take on this debate see, Arthur Kroker & David Cook (1986), *The Postmodern Scene: Excremental Culture and Hyper-Aesthetics*, St. Martin's Press, New York. See especially chapter 4: 'Postmodernism and the Death of the Social', pp. 168-242.

one. Whoever realizes that most people are weak in small things and wants to attain his own purposes through them, is always a dangerous human being.<sup>313</sup>

Whilst more highly literate modes of production may have elevated 'important matters', the press, and its heirs — today's workers in the electronic media — institutionalise this metaphysical trade in 'small matters'. The colour of eyes, the shape of lips, curvaceousness, muscularity, dress sense, gait, the 'grain of the voice',<sup>314</sup> skin colour, hair, the longevity of fingers — these 'small matters' are the stuff of both electronic and genetic information. Increasingly, electronic data is the abstract base on which the genetic manipulation of the future will possibly take hold.

One conduit for this trade in 'small matters' is the 'mimetic faculty'.<sup>315</sup> This very animal process of miming, copying, re-producing ourselves from representations is a significant lynchpin of electracy, even more so than in film and photography, the important influences on Walter Benjamin's thinking.<sup>316</sup> The central organising structure of these latter media is the visible frame. The electronic rendering of information devolves this structuring principle to the pixel, to the byte or the bit. The stylistic intensity of electracy's micro-reproductive capacities also puts the 'mimetic faculty' on a higher plane. Ever smaller bits of information combine with ever larger vistas in an ecstatic display of electronic stylisation. An instance of this is electracy's ability to move seamlessly between the microscopic (medical images of the foetus inside the body, for instance) and the macroscopic in knowledge production.

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<sup>313</sup> Friedrich Nietzsche (1994), *Human, All Too Human*, trans. by Marion Faber & Stephen Lehmann, Penguin Classics, London, p. 214. [Italics in the original].

<sup>314</sup> Roland Barthes (1977), 'The Grain of the Voice', in *Image-Music-Text*, Essays selected and translated by Stephen Heath, Fontana, London, pp. 179-189.

<sup>315</sup> Walter Benjamin (1978), 'On the Mimetic Faculty', in *Reflections*, edited by Peter Demetz, trans. by Edmund Jephcott, Harcourt Brace Jovanovich, New York, pp. 333-336.

<sup>316</sup> On the animal nature of the 'mimetic faculty' see, Roger Caillois (1984), 'Mimicry and Legendary Psychasthenia', trans. by John Shepley, in *October*, #31, (Winter), pp. 16-32.

While 'big picture' abstractions like 'truth', 'beauty', and 'democracy' are hard to electronically reproduce, smaller matters of the body, and possibly the family and the region, do make 'good electronic copy'. That is, in the latter's transmutable quality, it is easy to take any copy from the global network and transfer it to the corporeal, or the local first instance, or of its regional proximity in time and space. In Michael Taussig's words: 'The ability to mime ... is the capacity to Other.'<sup>317</sup> If the Other *was* a concept generating fear of this larger global domain, it is now equally related to desire, although the two are not easily separated. And, as these multitudinous and fragmented electronic Others stack up inside me, around me, and through me as symbols,

My desire multiplies to match the ceaseless multiplication of things,  
shooting so far past my needs that it appears as if my goal were anything  
but their satisfaction. The objects that I pursue with the fervour of a  
lover have little to do with needs for mere survival. I come to desire the  
pleasure of desire itself.<sup>318</sup>

Like electrons circling an atom desire is its own circuit, continually re-creating its doppelgangers anew, but coming to encompass everything. The production and consumption of any kind of knowledge is not excluded from this process.

While a Bio-Simulationist Capitalism based on genetic technology is still emerging, cloning is the thing in the genetic episteme that most closely resembles the 'mimetic faculty'. Certainly, ethical debates rage around the subject, but cloning is now almost a technological certainty for both sheep (*Hello Dolly*) and humans. One condensation of this debate applicable to electracy is the fact that the body, via cloning, is now recordable as a representational, and subsequently, as a biological

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<sup>317</sup> Michael Taussig (1993), *Mimesis and Alterity: A Particular History of the Senses*, Routledge, New York, p. 19.

<sup>318</sup> Susan Buck-Morss (1995), 'Envisioning Capital: Political Economy on Display', in *Critical Enquiry*, vol. 21, #2, (Winter), p. 452.

entity. While analog electronic forms allow for a gradual degradation in the sequential copying of data, digital forms have instituted the incongruous idea of the perfect copy. There could be no better definition of cloning.

Increasingly in electracy, a copy is no different from its master. 'Creating and copying' is a key productive activity in the aesthetic domain of electracy.<sup>319</sup> And it was Marx who warned of the role played by commodity fetishism in objectifying the actual processes of labour in the commodity itself.<sup>320</sup> With cloning, the body is fully incorporated into capitalism as a commodity. The 'ideology of the [electronic] aesthetic' has been a significant contributor to this transformation. And if the aesthetic is 'our finest instance of emancipation', it is also the most able instrument of our enslavement.<sup>321</sup> And there is no doubt enslavement can be as much *in* the mind, as *of* and *in* the body.

By its very nature electracy cannot be reduced to a singular conclusion. With its multi-nodal interconnections, any self-contained conclusion on the subject is, by formal necessity, linked to a host of other forking conclusions. A more pragmatic conclusion, for instance, would almost certainly have to look in more detail at the policy framework of the pedagogical theories and practices surrounding electracy. In a range of institutional contexts: primary, secondary, and tertiary schooling for instance, there is a wholesale lack of guidance in actively instituting a pedagogical method based on electracy. This kind of conclusion would connect the speculation herein to a more thoroughly articulated program aimed at educating a large number of people in the actual production and consumption protocols of electracy. This kind of policy framework has only been occurring intermittently and randomly. The aesthetics of electracy would then form a more active part in the

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<sup>319</sup> Enrico Coen (1999), *The Art of Genes: How Organisms Make Themselves*, Oxford University Press, Oxford. See especially chapter 2: 'Copying and Creating', pp. 16-38.

<sup>320</sup> Karl Marx (1954), *Capital, Vol.1*. See especially chapter 1, section 2: 'The Two-fold Character of the Labour Embodied in Commodities', pp. 48-53.

reshaping of the 'cognitive mapping' necessary for a more fundamental shift in our understanding of the production of electronic knowledge.<sup>322</sup>

Cognitive mapping also calls to mind an associated area of interest: the role electracy might play in the development of both the psychology and physiology of 'cultural cognition'. This concluding tangent attempts to juxtapose what Michael Tomasello calls the 'three distinct time frames' of 'phylogentic time', 'historical time' and 'ontogenetic time'.<sup>323</sup> The first of these looks at the evolutionary history of the human body, the second should be self explanatory, and the last is how each and every human body evolves in a lifetime. While at one level this is a repackaging of the nature/nurture debate, this area of cultural cognition synthesises interest from informatics, computer studies, cognitive science, psychology, cryptography, artificial intelligence and cyborg studies. There is no doubt this area is ripe for more fruitful research. A simple question to start off with could be: what role does the synaesthetic skein of electracy play in the development of cultural cognition?

And finally, to return again to the body (to its work, to its motility and excesses), there is another area of neglected interest in urgent need of exploration. Simply, this deals with the oft-repeated accusation of electronic media as being 'shit', 'trash', 'garbage', or 'about nothing'. This oft-expressed opinion about electronic media, emanating from both high and popular cultural arenas, makes electracy directly involved in Norman O. Brown's notion of an 'excremental vision'. And as a key component of the excremental, 'Scatology ...'

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<sup>321</sup> Terry Eagleton (1990), *The Ideology of the Aesthetic*, p. 252.

<sup>322</sup> For a more updated overview of cognitive mapping see the collection of essays in, Rob Kitchin & Scott Freundschuh (eds.), (2000), *Cognitive Mapping: Past, Present and Future*, Routledge, London & New York.

has no other aim than to lower the seat of thought a few degrees, to make it, in every case, lose its head or, what comes down to the same thing, make the head lose thought. Return of the brute, back to headless animality.<sup>324</sup>

If Charles Darwin re-acquainted us with the animality of our evolutionary arc, a multi-levelled, meandering and meaningless computer game entitled *Scatologica Electronica* would enlighten us on this movement in electracy from knowledge production in, and by the reasoning brain, to the nether regions of the body below the diaphragm. This is where knowledge may be rhizomic, but equally, a bowel-like and irregular **Radial-LogiC**® would be its foremost organising principle. The boys in *South Park*: Cartman, Kenny, Stan and Kyle, would be its ‘excremental philosophers’ in that they are always attacking any form of knowledge production and consumption.<sup>325</sup> Electracy, then, is cognitive food for the stomach, and its informational detritus is what connects it with the excremental vision. It might well be that an excremental vision is at the very heart of electracy.

There is possibly nothing more intimate than our excretory processes, from both a psychological and physiological point of view. This expansion of the excremental vision in electronic culture is part of the overall expansion of public scrutiny on subjectivity, in the past usually considered a private affair. Because artists have helped establish a pliable trade in ‘private life’, our ‘imaginary life’ is now a significant object of attention and commodification. Roland Barthes has

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<sup>323</sup> Michael Tomasello (1999), *The Cultural Origins of Human Cognition*, Harvard University Press; Cambridge, Massachusetts & London, England. See especially chapter 7: ‘Cultural Cognition’, pp. 202-203.

<sup>324</sup> Denis Hollier (1991), *Against Architecture: The Writings of George Bataille*, tran. by Betsy Wing, MIT Press; Cambridge, Massachusetts & London, England, p. 105.

<sup>325</sup> In an interview with the makers of *South Park*, Trey Parker and Matt Stone, *The Guide* quotes Parker as saying, “We’re trying to point out how stupid a lot of things are, and how stupid a lot of arguments are, and how stupid it is when people takes sides on issues.” See, Michael Idato (2001), ‘School’s In’, in *The Guide*, (November 12-18), in *The Sydney Morning Herald*, Monday, November 12, p. 6.

warned us of this new stage on which the exploitation of the [electronic] imagination is taking place:

It is certainly when I divulge my *private life* that I expose myself most: not by the risk of "scandal," but because then I present my image-system in its strongest consistency; and the image-system, one's imaginary life, is the very thing over which others have an advantage: which is protected by no reversal, no dislocation.<sup>326</sup>

In this exploitative and nurturing context, the quest for artistic genius is of little interest, the province of nostalgic inertia. If electronic aesthetics tells us anything nostalgic, it returns us to the commonplace notion that subjects are imbued as much with sameness as difference. This sameness and difference is now constituted in nano-flows and intensities, in the genetic episteme, and in the future of its recombinatory lusts and urges, along with a host of other knowledge nodes, including the totalising and splintering edifice of global capitalism. The swirl of singular subjective difference and brilliance, a hangover from literate forms of aesthetic production that has consolidated itself in electronic forms, was, and is, now as much about a kind of anthropomorphic narcissism as it is about subjective narcissism.

Partly through the spread of electronic aesthetics the *imaginary-self* is now the primary object-relation of global capitalism; and, as already hinted, the self is now a fully promotional, marketed, and marketable, commodity. This returns us face to face with the problem of collectivisation, articulated along electracy's more anarchic conception of the production and consumption of knowledge via the pixel↔wisdom continuum. It is a development that comes at the expense of social, political, economic or cultural givens, the latter of which were usually forged in

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<sup>326</sup> Roland Barthes (1977), *Roland Barthes by Roland Barthes*, p. 82. [Italics in the original].



literate contexts. Gleefully (like *Pulp Fiction*), and gloomily (like *The Fugitive's* eternal running from the law), as well as Cindy Jackson's determined hour-glass efforts to be more beautiful,<sup>327</sup> capitalism and electracy globally diffuse knowledge production and consumption on a monumental scale; it does so while circulating a vast diversity of electronic minutiae through every imaginable beginning, middle and ending.

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<sup>327</sup> Cindy Jackson is a woman who has had over 30 cosmetic surgery operations. She offers herself as a consultant to people who want to use surgery as a means of changing their appearance. As she has medically sculpted herself into an hourglass figure of beauty, she seems symptomatic of the relationship between our will to change the structure of our bodies using available information as well as the technology. Go to her web site, [Hwww.cindyjackson.com](http://www.cindyjackson.com)H and follow the link through Transformations where she writes: "Applying the principles of beauty I had learned in my art studies ..." [Accessed: 6/12/2001].

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