

PART 1: THE ECOLOGY OF THE IMAGE

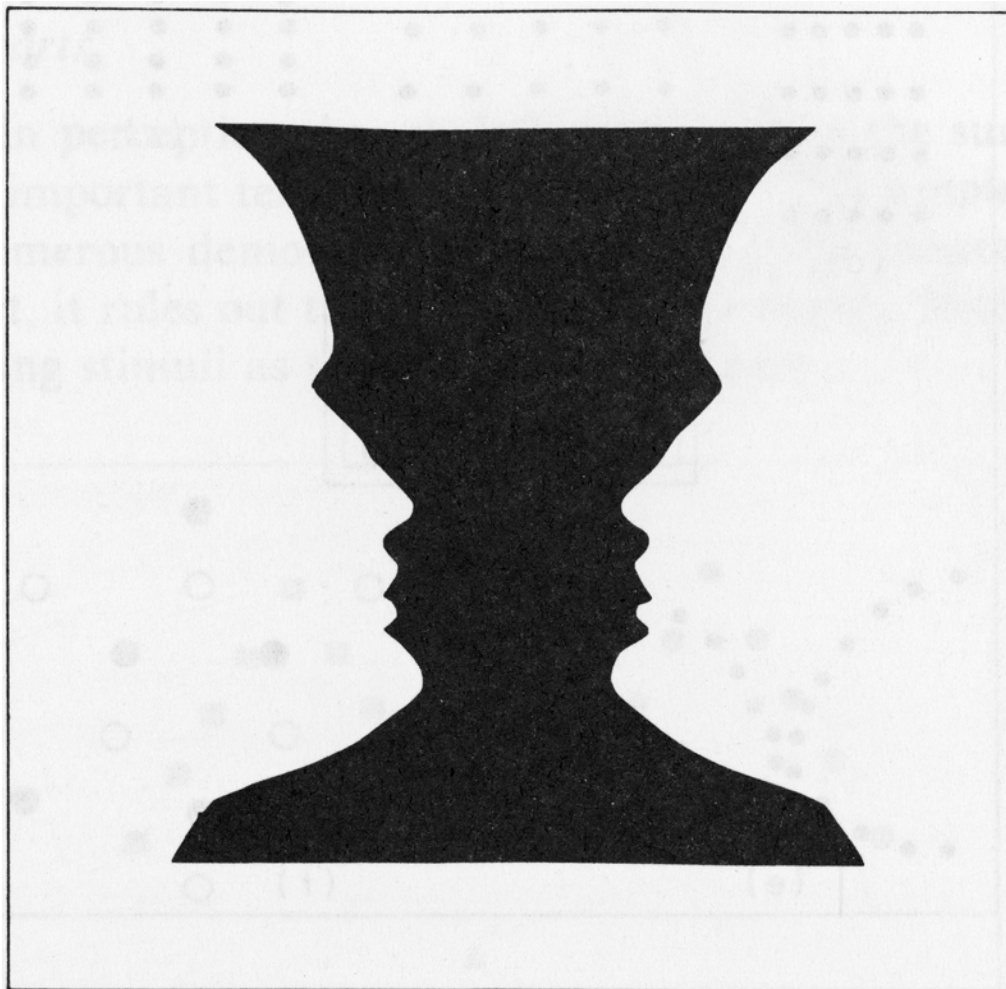


Figure 1: Figure-ground reversal: the face-vase illusion (original design by Edgar Rubin).
Ian E. Gordon, *Theories of Visual Perception* (Chichester: John Wiley & Sons, 1989) 53.

PART 1: THE ECOLOGY OF THE IMAGE

...no denser or more tacit form of communication, no shaping or organising force more comprehensive or more insidiously embedded in our lifeworld than images. They make up the true lingua franca of commerce, politics, and psyche; they are the 'cloaking devices' par excellence of the human social world. (Sanford Kwinter)¹

One must see, at first sight, what does not let itself be seen. And this is invisibility itself. For what first sight misses is the invisible. The flaw, the error of first sight is to see, and to not notice the invisible. (Jacques Derrida)²

...nothing seems more important than to debate the ecological role and character of images. (Andrew Ross)³

Don't worry sweetheart — it's just a movie. (Anon)

INTRODUCTION

SNAP SHOT: AN ACCIDENT IN SLOW MOTION⁴

I am sitting in a Holden car designed in 1966, travelling down a highway on an extremely hot day at fifty miles per hour. The luxurious design of the interior (beautifully preserved by the car's owner) speaks of a familiar car culture even though the detailing has changed. Something is, nonetheless,

¹ Sanford Kwinter in his introduction to Bruce Mau, *Life Style* (London: Phaidon, 2000) 36.

² Jacques Derrida, *Specters of Marx: the state of the debt, the work of mourning, and the New International*, trans. Peggy Kamuf (New York: Routledge, 1994) 149-50.

³ Andrew Ross, "The Ecology of Images", *The South Atlantic Quarterly* 91:1 (Duke University Press, 1992): 219.

⁴ Hajer after Roqueplo describes ecological damage as 'an accident in slow motion', a gradual process of incremental change rather than a clearly identifiable event. I am here borrowing this idea to make a point about the ecology of design, which is, as shall be seen, not other to biophysical ecology. Maarten Hajer, *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process* (Oxford: Clarendon Press, 1995) 21.

out of place, and it has to do with what I can sense but can't see: the air. The windows are open and air is circling around the car in a gentle and starkly unfamiliar way. Then I realise what is affording me this experience: the quarter-vent or 'butterfly' windows. These small, metal rimmed, triangular windows form part of a dual window design that has almost completely disappeared from cars, due partly to developments in manufacturing and to rising car theft. Yet the opened windows simultaneously circumvent the need for air-conditioning by gently directing the flow of air into and out of the car and allow me to keep in touch the environment I am speeding through, an experience that has also almost completely disappeared from driving today. The butterfly windows reveal the design of the modern car — with its ozone depleting air-conditioning, toxic upholstery, air-fresheners, growing range of safety, security, entertainment and orientation features, and of course tinted, all-in-one windows (which, opened at speed, produce a fierce, deafening wall of air) — as a form of designed environmental ignorance.

The role of the image in shaping a product like the car is paramount. The car is a designed assemblage that forces together materials, industry, human being, culture and environment. Yet through the collusion of image and design, the car is extricated from these conditioning relations and has come to embody instead the Western dream of emancipatory thought. It is as though with an engineered-for-satisfaction *whoomph* of the car door, Descartes' mind body split is made material. And in spite of the insistence of the material world in its visceral collisions with this dream, the car is increasingly designed to behave as though it were operating in an artificially resilient, consequence-free televisual domain, disarticulated from material constraints — endlessly tracing open trajectories over the world as *res extensa*.

The car is an extremely significant object in the technologically ‘liberated’ democracy of our culture.⁵ It sits in an anxious place between ideas and their material effects: it is an object of desire and fear, trust and betrayal, success and failure. When people feel good, they buy cars and the economists project a secure world. Likewise historically, nations have employed a car industry to proclaim themselves to the world as modernised.

The confrontation between the industries producing and promoting cars and those whose job it is to manage the material impacts left in its wake, can be reconceived as a debate about this erroneous idealism of the car. The influence of promotional images on real driving habits, particularly speeding, has been a particularly ‘hot’ topic. While for many it feels as though there just *is* an obvious connection between the promotional image and the actual conduct of car users, this connection cannot be made with the available mechanisms of proof, much to the delight no doubt, of every Federal Chamber of Automotive Industries. If there is a connection, it is clearly a transfigurative event, but it is one that cannot be presented.

The terms of the debate change, however, if a consideration of the agency of design takes precedence over the individual culpability of car users.⁶ The car is a designed thing that, as it “worlds” — and here we use the Heideggerean understanding of a world as a coherent and distinct context opened by the designed machine — *is* both sign and world.⁷ In the world of the car, a space radically disarticulated from the outside environment is delivered, and desire is shaped.

⁵ For Albert Borgmann, technology’s cultural power resides in its actualisation of ‘liberal democracy’. Albert Borgmann, *Technology and the Character of Contemporary Life* (Chicago and London: University of Chicago Press, 1984) 92. We take up Borgmann’s work in Part 4.

⁶ Ulrich Beck points out that the horror of mass deaths on the road has been normalised socially because it is ostensibly a matter of people’s free choice to drive or not, and traffic accidents are therefore perceived as events of individual culpability. Ulrich Beck, *Ecological Politics in an Age of Risk*, trans. Amos Weisz (Cambridge: Polity Press, 1995) 165.

⁷ Martin Heidegger turns ‘world’ into a verb: the “world worlds”. This names the ongoingness of world making in relation to being. Martin Heidegger, “The Origin of the Work of Art”, *Poetry, Language, Thought*, trans. Albert Hofstadter (New York: Harper & Row, 1975) 44. Hubert Dreyfus

The car has become the ultimate icon of the linear force of consumerism as well as of its systemic blindness. In its endless negotiation of parameters of safety, speed, security, comfort and style, the car continues to arrive as the latest perfection of a utopian, streamlined future. This scenario is ever ironic: in the recent promotion of a vehicle that is environmentally benign, for example, industry in fact is merely creating and meeting the demands of a niche market for a machine that in the context of the world it has helped create, will never be benign.

It is not surprising that the centrepiece of the permanent design exhibition at the Powerhouse Museum in Sydney entitled *Ecologic: Creating a Sustainable Future* is a ‘parallel-hybrid’ vehicle called the ECOMmodore — the result of a collaborative effort between Holden and CSIRO that boasts a conventional *and* electric engine.⁸ The car is attended by a video that demonstrates, in luxurious images, the ‘beautiful’ transparency of technology’s sustainability crusade. Not only does the car *look* like a conventional Commodore, one might also say the *will* of the car remains intact.⁹ The technology makes sure that performance is not sacrificed and you can continue to drive as usual. Your driving dictates the imperceptible switch between, or utilises the combined power of, the conventional engine and electric motor. Where once the exhaust belched modernity —

and Charles Spinoza aptly explain the process of world making: “According to Heidegger our nature is to be world disclosers. That is, by means of our equipment and coordinated practices we human beings open coherent, distinct contexts or worlds in which we perceive, act, and think. Each such world makes possible a distinct and pervasive way in which things, people, and selves can appear and in which certain ways of acting make sense.” In Dreyfus and Spinoza, “Highway Bridges and Feasts: Heidegger and Borgmann on How to Affirm Technology”, *After Postmodernism* conference, 1997. Last Accessed August 30, 2004.

<http://ist-socrates.berkeley.edu/~hdreyfus/html/paper_highway.html>.

⁸ The ‘parallel-hybrid’ is an electrically assisted mechanical power train that has an electric motor generator and an internal combustion power source. It is conceived as an interim design on the way toward a mechanically assisted electric power-train called a series hybrid, which in turn will be followed by a fully electric power train: the fuel cell. There are other parallel hybrid cars available; Toyota’s Prius (Latin for ‘to go before’) and Honda’s ‘Insight’ have both been heavily marketed.

⁹ “Technology is without a directing human subject. It now exists and functions independently of any subject’s overall direction. This is to say that technology has taken on a ‘life’ of its own. It has become something to react to, rather than direct...technologies have been designed with an embodied ‘will’ of their own that designs the users’ and the technicians’ relation to them.” Tony Fry, *A New Design Philosophy: an introduction to defuturing* (Sydney: UNSW Press, 1999) 33.

modernity's dark side — it will now produce, it seems, modernity's fume-free salvation.¹⁰

'We' live in a world where it appears that everything hinges on productive capacity.¹¹ This cannot be shut down, even where material abundance of goods far exceeds our ability to consume them. Value can only be maintained through systematic forms of semiotic reconfiguration, a task that is largely carried out by the "manifest discourse" of the televisual image.¹² The role of the image in consumer culture is not merely to represent things or even simulate them. It is to sustain growth without consequence.¹³ The image clears the way for productivism; it makes things appear and disappear and it makes us remember and forget. It does this, with much success and vigour, by semiotically reconfiguring what is significant in our experience of and with designed things. Yet the ecological irritation produced by the semiotic manipulation of material things and environments shows up the short-sightedness of such productivism. There is, for example, the after-image of the material refuse of dead and abandoned technologies; the growing, unpredictable 'hertzian' environment of electromagnetic radiation; toxins that refuse to acknowledge either object, body, legislative or national boundaries.¹⁴ A careful elaboration of this situation will

¹⁰ This idea is not yet a reality. While standing alone the fuel cell could be said to produce zero emissions, the technology depends upon obtaining pure hydrogen from processes that are still predominantly petroleum based.

¹¹ The 'we' of this thesis in the most general sense is the 'we' who live within the cultural orbit of the televisual. Both the reader and myself are implicated by the pronoun, which also marks the journey of participation that reading and writing entails. More specifically, the reader will find that the 'we' changes slightly according to the disciplinary focus of each of its four parts.

¹² This useful characterisation of the image comes from Jean Baudrillard, *The Consumer Society: Myths and Structures* (London: Sage/TCS, 1998) 124.

¹³ Baudrillard refers to the productivist tendency in consumer society toward the "homeopathic treatment of growth with growth." This observation dates to 1970, yet it is all the more important now in a world in which we increasingly "live off signs and under the protection of signs". Baudrillard, *The Consumer Society* 33-9.

¹⁴ Dutch research shows that polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDs), toxic chemicals used as flame-retardants in millions of computers and televisions, can damage an organism's nervous and reproductive systems. A *New Scientist* article reported that these chemicals were excluded from a UN ban on certain chemical pollutants because there was no evidence that they spread beyond national boundaries. However they have since been found in the

reveal the ecological carelessness of designed things and the need for product makers and users to develop a literacy that can create and project links between images, objects and broader social, cultural and physical conditions.

The question concerning the image in this thesis is not one of its fidelity but of its materiality. What can be learnt about the cultural disposition and material propensity of designed things if we consider the image to be integral to their designing, vitally and relationally *involved* in what and how they are? In what follows, we reveal the ecological nature and agency of the image and draw out the implications for cultural intervention and change from the worldly initiative we discover.

Drawing evidence from the everyday environments and objects of design, this thesis argues that images are powerful conceptual forms that actualise new relations between ideas, human actions and material conditions. Images assemble disparate, decontextualised elements, which are deprived of spatio-temporal and sensory complexity. Nonetheless, images go on to have a life of their own as they interact with minds, bodies and environments.

As televisual technologies have developed and expanded, images have grown in ecological significance. The ecology of the image is fast becoming our first ecology — emerging from the horizon of our seeing and knowing — an organising framework for all other ecologies. Whilst the implications of this ecology cannot be fully or finally apprehended, the unsustainability of so many of

tissue of sperm whales in the middle of the Atlantic Ocean. Debora MacKenzie, “Still at Large: PCB’s dangerous cousins have slipped through the UN’s net”, *New Scientist* 159.2141(1998): 6. A bibliography of up-to-date research on the issue of the lifecycles of persistent organic pollutants is presented in A. J. S Rayl “Pollutants without Borders”, *The Scientist* 2 Sept. 2002 <www.the-scientist.com>.

our designed environments bear witness to a highly problematic evolution that deserves urgent and significant attention from a design perspective.¹⁵

This thesis presumes that many of our practices of world-building are unsustainable. Unsustainability is characterised here not in the negative, as the binary opposite to sustainability, but as the means of achieving sustainability — it is the observable problem that can be grasped on the way to better understanding what we need to sustain ourselves and that upon which we depend. The disjuncture between ecological impacts that show up in our environments and the unrevised perpetuation of the conditions that cause them, indicates that our ability to make connections between actions and material conditions is wanting. We argue that the world of designed, fully-integrated and manipulable products that we do see — products like the car — also manifest a profound inability to perceive causal relations. This lack of relational ability is implicitly shared between people and can thus be considered a ‘cultural’ norm.¹⁶

Sustainability, on the other hand, is a “greenfield site”, a landscape to be invented.¹⁷ Since 1987 and the publication of the Brundtland Report, this site has been quickly filled in and there is now considerable satisfaction around the

¹⁵ My project arrived out of working at the EcoDesign Foundation, which Tony Fry and Anne-Marie Willis founded in 1991 and served as Directors until 2001, and where I worked from 1996 to 2002. During this time, the theories of the ecology of the image, the televisual and ontological design, were shared, lived and worked with. Fry has written extensively on the televisual and the theory of the ecology of the image, and sign-posts the need for this ongoing, collaborative attention when he writes: “the material consequences of the image ecologies that sustain and drive the productivism of the televisual have hardly begun to be recognised.” Fry, *A New Design Philosophy* 272.

¹⁶ We take ‘culture’ to refer to what is manifestly and potentially shared between people, including ideas, values, things and experiences. In his thoughtful book on consumption and material culture, Daniel Miller highlights the significance of sharing and the shared in ‘culture’. He writes “culture is always a process and is never reducible to either its object or subject form. For this reason, evaluation should always be of a dynamic relationship, never of mere things.” Daniel Miller, *Material Culture and Mass Consumption* (Oxford and Cambridge: Basil Blackwell, 1987) 11. As the thesis unfolds it will become clear that designed products are never considered to be ‘mere things’. We take up the question of the referent ‘culture’ further in Part 3.

¹⁷ “The ecological imagery, its schemata, its scripts are developed on a greenfield site, so to speak, they form a terrain that is not yet occupied.” Niklas Luhmann, *The Reality of the Mass Media*, trans. Kathleen Cross (Cambridge: Polity Press, 2000) 111–13.

meaning and presence of ecological sustainability, particularly in economic terms.¹⁸ Post-Brundtland, the nomination of sustainability often functions as a way to assure the business-as-usual growth of the product world. Hitched to the monolithic and abstract notion of global economic development, sustainability is the symbolic bridge coupling materially intensive Western standards of living and their technological means, to human need. Our position is that this situation is intrinsically unsustainable, and is evidence of what Ezio Manzini calls “product-based well-being” — a perception of quality of life that is linked to the acquisition of material products.¹⁹ The nomination of unsustainability as a way toward sustainability is meant to draw attention to design’s role in this situation and to expose the challenge of designing otherwise. In order to develop the *ability* to sustain, there is a need to critically reflect upon the worlds that design has given us and the shape of the futures that design brings into being — to ask: what does design *design*?

The theoretical framework and methodology employed by this thesis is provided by the established though recently named theory of ontological design.²⁰

¹⁸ In 1987, the appointed Chairman of the World Commission on Environment and Development Gro Harlem Brundtland, commissioned what is now commonly referred to as ‘the Brundtland Report’: *Our Common Future*. This report brought sustainability into line as a qualifier of global industrial development and has had a powerful role in shaping the meaning and application of the term since then. The most widely quoted phrase from the report is “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” World Commission on Environment and Development (WCED), *Our Common Future* (Oxford: Oxford University Press, 1987) 43. Many have pointed out that this definition fails to distinguish between ‘wants’ and ‘needs’ and therefore avoids the problem of their inextricable entanglement in consumer culture.

¹⁹ Ezio Manzini, “Scenarios of Sustainable Wellbeing”, *Design Philosophy Papers Collection One*, ed. Anne-Marie Willis (Ravensbourne: Team DES, 2004).

²⁰ Ontological design is a practical theory based on the thought of Martin Heidegger and Hans-Georg Gadamer. It is elaborated in Terry Winograd and Fernando Flores, *Understanding Computers and Cognition: A New Foundation for Design* (New Jersey: Ablex, 1987); Tony Fry, *Remakings: Ecology Design Philosophy* (Sydney: Envirobook, 1994); Tony Fry, *A New Design Philosophy: an introduction to defuturing* and Anne-Marie Willis, “Redirective Practice: Ontological Designing” a paper presented at the *Design Cultures* conference, Sheffield-Hallam University in 1999. In addition, the EcoDesign Foundation has put ontological design into everyday practice in its design research, education and consultancy activities. The ontological design context for the ecology of the image will be elaborated below in Chapter 1.

Ontological design takes after Martin Heidegger's inversion of Descartes' *cogito* "...the first statement is 'sum', in the sense of I-am-in-the-world. As such a being, 'I am' in the possibility of being toward various modes of behaviour (*cogitationes*) as ways of being together with inner worldly beings."²¹ For Heidegger, human beings are always already in the midst of and in relationship to things. Ontological design is a practical theory that with hermeneutic phenomenology seeks to understand the production of materiality (images, objects, infrastructures) in relation to the ontological continuity of mind, body and environment. It calls to presence the always already dynamic nature of the process of human making, in which the things we make are always more than themselves, have implications beyond themselves and are disposed to behave in particular ways toward and away from humans, as they make their way in the world. In this frame of interpretation designed things perpetually travel between cultural histories and futures. They are always relational and the environment is alive with design intention — human and non-human. Yet we do not encounter this dynamism, the things of the world appear to us to stay in place.

Our key example of an ecology of the image is the 'televisual.'²² The televisual helps us to explore both the apparently impassive and inert nature of things that our seeing sees and the ecological relationality that undoes it. Many have thought about the socio-cultural impacts of television and the media more generally. In this thesis the televisual is explored from the perspective of ontological design as a particular kind of *operation* that has profound ontological and ecological implications. The televisual, constituted and generated by all forms of mass media, is the designed thing plus its designing milieu. It is both the object that provides the primary locus of our everyday engagement with images, and "a

²¹ Martin Heidegger, *Being and Time*, trans. Joan Stambaugh (Albany: State University of New York Press, 1996) 195.

²² The idea of the televisual is first elaborated in Tony Fry, ed., *RUA TV? Heidegger and the Televisual* (Sydney: Power Publications, 1993).

medium that has escaped from itself”.²³ This medium is not a mere means of transmission, but the imposition of “new modes of relating and perceiving.”²⁴ The televisual image throws forward into the world not simply cultural models, but in Marshall McLuhan’s evocative words, actual “tactile promptings” for configuring mind, body and environment.²⁵ The televisual has fundamentally reshaped the art of society and has become a significant instructive feature of our environments. With the theory of ontological design, television will be developed as materially and symbolically radiant, a thing that informs our memories, our bodies, our perceptions, and our actions, in a way that extends and contextualises the critique of the television as a medium of socio-cultural reflection. The televisual asserts the persistent authority of representation by bringing the world to presence as an object of recognition, and in so doing shapes who we are and the worlds that we build.²⁶

In 1938 Heidegger wrote the essay “The Age of the World Picture” which considers the status of our modern world in the age of calculative reason where everything can be seen or is on the verge of being seen. He indicated the ontological sway of the image when he wrote that “the fundamental event of the modern age is the conquest of the world as picture...the structured image [*Gebild*] that is the creature of man’s producing which represents and sets before.”²⁷ The world picture does not merely imply a picture of the referent ‘world’, but refers instead to the manner in which the world is fundamentally and thus normatively

²³ Fry, *RUA TV?* 24.

²⁴ Baudrillard, *The Consumer Society* 123.

²⁵ Marshall McLuhan, *Understanding Media: the extensions of man* (London: Routledge & Kegan Paul, 1967) 316.

²⁶ This assertion rests upon a diverse body of work expanding upon Martin Heidegger’s hermeneutics of technology, most explicitly in Fry *RUA TV?* and Winograd and Flores *Understanding Computers and Cognition*. Don Ihde explores the technological mediation of perception in *Technology and the Lifeworld: From Garden to Earth* (Bloomington and Indianapolis: Indiana University Press, 1990).

²⁷ Martin Heidegger, “The Age of the World Picture,” *The Question Concerning Technology and other essays*, trans. William Lovitt (New York: Harper Torchbooks, 1977) 134. Lovitt explains that this essay was originally presented as a lecture in 1938.

conceived and interpreted. Thus the image in Heidegger belongs to the thought of representation and becomes its “most visible outgrowth.”²⁸

While Heidegger did not explicitly comment on television until 1950, the world picture prefigured his theoretical concern with the medium in which metaphysics and technoculture converge.²⁹ In “The Age of the World Picture” representation is both a system within which being is implicated, and the *bodying-forth* of the system.³⁰ This understanding of representation as a fundamental, ongoing, structuring event of the modern age, is a powerful interpretation and a fruitful proposition for considering the image in an operational frame. Heidegger reveals that images are not just representations but are ontological interventions into the modern world. In spite of all the contemporary discourse on the media, these insights still have much to teach us about the designing power of the image and the telegenic *attitude* of our practices of world-building.³¹

A wealth of philosophical thought tells us that representation is a problem and “dominant generality” in modern times.³² As a philosophical conflation of knowledge, truth and visual acuity, representation has, according to Heidegger, become normative and self-evident, instrumentally learnt and unproblematically

²⁸ Heidegger here refers to autonomous machine technology as ‘the most visible outgrowth’ of the essence of modern technology. In this thesis, we connect the image to the designing of the autonomous machine. Heidegger, “The Age of the World Picture” 116.

²⁹ Fry *RUATV?* 12. Heidegger discusses the ontological significance of television in “The Thing” remarking that “(t)he peak of (the) abolition of every possible remoteness is reached by television, which will soon pervade and dominate the whole machinery of communication.” Martin Heidegger, “The Thing,” *Poetry, Language, Thought* 165. The relation between Heidegger, design and the televisual is explored in Part 2.

³⁰ Heidegger, “The Age of the World Picture” 141.

³¹ Michel Foucault describes the Enlightenment as a condition or attitude, rather than just an epoch or historically contained era. Foucault, “What is Enlightenment?” in Paul Rabinow, ed., *The Foucault Reader* (London: Penguin Books, 1984).

³² Jacques Derrida, “Sending: On Representation,” *Transforming the Hermeneutic Context: from Nietzsche to Nancy*, eds. Gayle L. Ormiston and Alan D. Schrift (Albany: State University of New York Press, 1990) 118. Samuel Weber indicates that Jacques Derrida, Jacques Lacan, Roland Barthes, Michel Foucault, Gilles Deleuze and Francois Lyotard form a group of key thinkers who have explored the problematic of representation in Western thought. Whilst I refer to the work of some of these thinkers, I focus primarily on Martin Heidegger’s thought on representation, which

applied. Yet at the same time, this embeddedness makes representation impossible to track down. Jacques Derrida says: “(T)he authority of representation constrains us, imposing itself on our thought through a whole dense, enigmatic, and heavily stratified history. It programs us and precedes us and warns us too severely for us to make a mere object of it, a representation, an object of representation confronting us, before us like a theme.”³³

After Heidegger, representation is epochal but also operational: a calculative impulse. Representation names the move of bringing something to stand as object in relation to oneself and also the object that is thus set in place.³⁴ Representation’s internal logic is projected before it, structuring and preparing the ground of interpretation. It opens a self-certain space in which objects can move, resonate and be verified. Yet the logic of representation generates distinctive issues in every placing of objects, issues moreover that it has increasingly failed to explain or accommodate. While the televisual world picture continually affirms representation’s ‘restricted’ and self-evident economy of form in the space of the everyday, the relational indifference that it normalises has its own unrepresentable influence on being in the world.³⁵

The failure of representation to respond to the differences that it generates is not a matter of *insufficiency*. The televisually assembled world does not simply leave some thing out of the picture, nor does it cast an illusory veil over the world,

has in various ways influenced the thinkers referred to above. Samuel Weber, *Mass Mediauras: form, technics, media*, ed. Alan Cholodenko (Sydney: Power Publications, 1996) 55.

³³ Derrida, “Sending: On Representation” 114.

³⁴ “To represent” says Heidegger, is “to set out before oneself and to set forth in relation to oneself.” Heidegger, “The Age of the World Picture” 132.

³⁵ Georges Bataille posited a distinction between the ‘restricted economy’ of limited monetary exchange based on scarcity economics and the ‘general economy’ of the totality of exchange generated by the excessive, energetic ‘gift’: the sun. The restricted economy is conceived as a reduction, representation and organisation of the second, which composes its vital setting. Georges Bataille, *The Accursed Share: an Essay on the General Economy*, trans. Robert Hurley (New York: Zone Books, 1988). Following on from Bataille, Fry posits a broader economy — the aeonic — as it opens onto a non-anthropocentric ecological system of exchange, neither containable nor knowable. The ‘aeonic economy’ simulates the unnameable totality, the relational ‘sum’ of this reality of human and non-human exchanges. Fry, *Remakings* 161.

though critique often falls into the trap of attenuating both the image and its effects, as we shall see. Similarly, the image does not simply brand the world, like the impression left by a stamp. These conceptions of the influence of the image return us to the problem of representation's calculative impulse. What can be *shown* to be the work of the image and how can its effects be calculated? In essence, we argue that the televisual is one of the key means by which being is directed, that is, forced into being.

The image is both consensual and potent. It *intervenes* in the world, transgressing its constraining media, animating ecologies beyond itself. The screened objects that immobilise and orient people in private and public, regenerate these ecological relations. More than what André Bazin called "the instrumentality of a non-living agent,"³⁶ the televisual image is a human-designed, non-human thing acting both in and on the world and producing material impacts both within and *beyond* human experience. This is not to say that these impacts are no longer of the result of human design. Man as *animal rationale* has created a world in which no thing remains untouched by anthropocentric intention.³⁷ In the words of Augustin Berque "the space of human territory has a physical and measurable dimension, but it always deploys itself *beyond* that dimension."³⁸ Following Heidegger's proposal, the worlding of the world picture gathers and mobilises ways of being and structurally inscribes material forms. It is this agency of the image, as both a form and force of designing, that the ecology of the image names and seeks to bring to presence.

As this force, the image *makes* new relations but is structurally incapable of recognising them. This operation is particularly significant in the context of unsustainability of productivism. In this thesis, productivism refers to the

³⁶ Bazin quoted in Philip Hayward and Tana Wollen, eds., *Future Visions: New Technologies of the Screen* (London: British Film Institute, 1993) 1.

³⁷ As Fry puts it, "'man' has created an instrumental world that structurally inscribes the anthropocentric in material forms" Fry, *A New Design Philosophy* 228.

‘autopoiesis’ of product-generating structures, including the industrial and televisual.³⁹ It is, we argue, sustained as much by the representational/televisual logic that is shared, exchanged and lived, as it is by the ostensible political and economic configurations of the global product market.

Inducted into the logic of representation, we do not bear witness to the ecology of the image. What we commonly recognise as environmental problems for example — problems ostensibly experienced by the natural world — are themselves designed appearances of a particular form, location and time. Environmental crises — which as Ulrich Beck and Niklas Luhmann observe, are crises on this side of industrial society — are not of the environment *per se*. The overarching ecological crisis — the “crisis of crisis” — is the foreclosure of our ability to perceive relations, which is sustained by the productivism of the televisual.⁴⁰

My contention is that the image needs to be considered in terms of this self-concealing productivist ability to not only make things appear or produce meaning, to return or “restore for the second time to presence”,⁴¹ *but to bring relations into being for the first time*. The image that asserts the possibility of bringing whole things frontally and indifferently before one “as a manifestness of

³⁸ Augustin Berque “Ecumenal Ethics” lecture given at the Faculty of Architecture, University of Melbourne, 15th July 1997.

³⁹ Here we follow Niklas Luhmann’s understanding of autopoiesis derived from ‘theoretical biologists’ Humberto Maturana and Francisco Varela (see *Autopoiesis and Cognition: the realization of the living* [Dordrecht, Holland: D. Reidel Pub. Co., 1980]). Luhmann’s translator John Bednarz Jnr, tells us that autopoiesis “capture(s) the unique capacity of living systems to maintain their autonomy and unity through their very own operations.” Maturana and Varela worked out a model for a dynamic autopoietic system “that was both closed (organizationally) and (structurally) open at the same time.” For Luhmann, the concept of autopoiesis can be mobilised to analyse the social system when the elements of the system are understood as communicative events rather than individuals. Niklas Luhmann, *Ecological Communication*, trans. John Bednarz Jnr (Cambridge: Polity Press, 1989) xi.

⁴⁰ The crisis of crisis indicates a crisis not of the environment, but of the *perception* of environment and its limits. See Fry, *A New Design Philosophy* 130; 244.

⁴¹ Derrida, “Sending: On Representation” 117.

beings as such as a whole”,⁴² is a product of the mode of thinking that denies the need to even interrogate the designing power of images because they are just fleshless copies. The image can show what it likes because it is essentially no thing; at the same time it secures and sustains the production of objects. By reading the televisual as an environment and an ontological domain, the relationality that the televisual image renders inconsequential, becomes legible and significant. This thesis proposes that the material entities of the product world and their contexts of use, make this designing of the image sensible.

This is not to say that we can account for all of the openings and effects generated by images, nor that all of these effects are ecologically harmful. Content analyses have, for example, provided a rich critical sounding board for the cultural influence of the growing image environment. We do argue, however, that the practical consequences of the image override content *as content*. Content of the image becomes content of the world. It is generative material turned out toward the world. Screened images are already beyond the screen, prefigured in mind, memory or thing. This is not to say that content analysis has no place. Rather that the image, as content of the world, “opens a dimension that can never again be closed.”⁴³

The ecology of the image is thus identified as a far-reaching problem that touches on an extensive history of philosophical ideas on being, perception, making, and the reifying powers of the Western metaphysical tradition. The critical practice of deconstruction that Jacques Derrida has applied to Western metaphysics informs ontological design, particularly as Heidegger prefigured it.⁴⁴

⁴² Martin Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*, trans. William McNeill and Nicholas Walker (Indianapolis: Indiana University Press, 1995) 304.

⁴³ Maurice Merleau-Ponty, *The Visible and the Invisible*, trans. Alphonso Lingis (Evanston: Northwestern University Press, 1995) 151.

⁴⁴ The insights of deconstruction inform the research approach of ontological design. Here we might signpost Fry’s explanation of defuturing as ‘a learnt act of critical deconstructive reading’: “the deconstructive move is accompanied by a reconstructive one, with the re-assembled forming a new pattern.”... “(E)mbracing defuturing means confronting and removing the authority of the foundations of thought, upon which the narratives of the like of ‘world’, ‘future’, ‘production’ and

While intuitive and sometimes explicit use is made of his work,⁴⁵ I do not retrace or review the ground established in a significant body of philosophical literature inquiring into the metaphysics of presence and the ocularcentrism of Western thought.⁴⁶ The present project is an inquiry into the operation and material consequences of the ecology of the image and, as such, focuses on design's work: the design(ing) of 'the things themselves'.⁴⁷ Following the approach of Terry Winograd and Fernando Flores, I listen to this literature for the relevance it has to my own considerations of the hegemony of the image in the phenomenal world.⁴⁸

In the fields of media and cultural studies there is an extensive body of work that is similarly important in exploring cultural life of images, particularly as it foregrounds the proposal that we increasingly live in meaningful immaterial spaces. The seminal work of Marshall McLuhan, which made an object of the media's transformative and prefigurative agency, needs acknowledgement. McLuhan speaks of the media in a highly designerly way, as a natural resource for extending human experience.⁴⁹ McLuhan's somewhat apolitical critique is developed by continental philosophy, particularly in the work of Jean Baudrillard, which is addressed in Part 3. In more recent media theory, sophisticated debates

'progress' stand — *this in order to make things otherwise.*" (My emphasis). *A New Design Philosophy* 2-3; 11.

⁴⁵ Derrida's post-Heideggerian putting of things and signs under erasure, his critique of the restricted writing of structuralism in the theory of 'general writing' and the hinge-like, ambiguous play of *différance* (defers-differs [*diffère*]) all inform the way I explore the image in this thesis. I have drawn particularly on the first part of *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore and London: The Johns Hopkins University Press, 1976) in relation to sign theory, and *Margins of Philosophy*, trans. Alan Bass (Chicago: University of Chicago Press, 1982) in terms of the undecideability of forms. One can also hear Derrida's play of differences in a recurring motif in this thesis — Gregory Bateson's understanding of the idea as a difference that makes a difference (discussed in Chapter 2 of this Part).

⁴⁶ A key survey of recent ideas in relation to the proposal that the modern world is characterised by an ocularcentric tendency is David Michael Levin, ed., *Modernity and the Hegemony of Vision*, (Berkeley and Los Angeles: University of California Press, 1993).

⁴⁷ I refer here to Edmund Husserl's famous phenomenological dictum from *Logical Investigations* (1900-1901): "now let us turn to the things themselves."

⁴⁸ This practical disposition in relation to ideas is explained in Winograd and Flores, *Understanding Computers and Cognition: A New Foundation for Design* 9.

regarding the vitality and cultural power of the sign have gone well beyond the ‘numbing’ effects of the media.⁵⁰ However, in such texts interpretations about media images are predominantly circumscribed by their identity as (electronic and print) media, which also places constraints on the possibility of the phenomenal analysis I pursue here. It is interesting that when the image does escape into the world it is often described in terms of a literal projection, the metaphysical image made physical, as in a hyperreal environment, which also abides by the constraints of identity.⁵¹

Theorisations of the image are often unreadable cross-culturally, which keeps the diagnoses of the cultural power of the image a secret from the scientific disciplines in which image-based practices are becoming increasingly significant.⁵² Such theorisations are important beyond their identified disciplinary contexts and need to find ways to transcend these contexts since the image has itself transcended them. The analytical skills developed in the disciplines of cultural theory, for example, which reserves the right and the authority to speak of and on behalf of the image, do not tend to make a difference in the real world discourses of science and ecology (which completely efface the significance of their own image-making practices as we shall see). So in spite of the weight of

⁴⁹“Any extension, whether of skin, hand, or foot, affects the whole psychic and social complex.” McLuhan, *Understanding Media: the extensions of man* 4.

⁵⁰ Mckenzie Wark’s proposal after Paul Virilio that the media are not representational but are rather vector-like trajectories, suggests that the media have a significant constitutive agency in relation to economic and political reality. However I think a more relational comprehension of this displacement is enabled by a design approach, as it breaks free of a critical circling of the media ‘object’. See Mckenzie Wark, *Virtual Geography: Living with Global Media Events* (Bloomington and Indianapolis: Indiana University Press, 1994).

⁵¹ Identifying these literal projections has become a popular task in cultural theory. The Disney planned community of Celebration in Florida, for example, is displayed as evidence of the growing ‘regime of the image’ by both Zone Books designer Bruce Mau and journalist author Naomi Klein. We discuss this understanding of how the image gets into the world further in Part 3 in relation to strategies of visual politics.

⁵² The cultural productions of instrumental disciplines has been identified in much cross-disciplinary work, a striking example of which is Catherine Vasseleau’s essay on the designing power of medical imaging technologies, “Life Itself” in *Cartographies: poststructuralism and the mapping of bodies and spaces*, eds. Rosalyn Diprose and Robyn Ferrell (Allen and Unwin, Sydney, 1991).

discourse on the image, there is a sense in which the relentless business of the image that Sanford Kwinter refers to in our opening quotation, continues unchecked by critical interpretation.

In industrial design discourse — the science-based discourse of products — a critical theory of the image struggles to emerge in the environment of computer-aided design, theatrically perfect industrial graphics, software driven prototypes, expanded polystyrene models and client-driven design management. The presence and transformational power of the image is vital in the practice of industrial design, but the image is seen as merely instrumental to the design process.

Thus whether the image *is* the object or the way *toward* the object, the image considered in terms of its own designing agency and generative, world-building power— particularly as it informs late modern styles of life— escapes adequate disciplinary engagement.

There is, however, a general cultural *idea* of the image and its worldly effects, which is in concert with the self-concealing characteristic of images. This idea is one of de-realisation: “images”, Susan Sontag tells us, “consume reality”.⁵³ Images work to conceal the world’s true depths. This idea is predicated on the Platonic notion of the depreciated reality of the copy, which in modern times has become technologically enhanced. In this thesis we identify a cross-disciplinary tendency to unproblematically perpetuate this idea, which suggests that image and world are of irreducibly different ‘stuff’. However, in closing off the reality of images, an adequate critical response to the ecology of images is also denied. The polarised responses to advancements in technologies of tele-presence provide an example. On the one hand, there is an extreme enthusiasm about the idea of leaving the material world and its constraints, including our lived bodies, behind. On the other, is the fear that when we finally can tele-immense, we will live in our

⁵³ Susan Sontag, *On Photography* (New York: Farrar, Straus and Giroux, 1977) 179.

heads, forget about the real world, stop interacting with other embodied beings and the like.⁵⁴ What is contentious in this example are not these ontological effects. Rather, it is the manner in which they are thought, the revision of the world *in terms of the idea of the image*. As the image gains control, the cost, it seems, will be the wholesomeness of the world and of life within it.⁵⁵

My argument seeks to account for these effects in an alternative way. The image does not deplete the world's substance. Rather, it secures a mode of valuing. It is a mode of valuing that Heidegger points to when he writes that in the pursuit of truth, "the openness of beings gets flattened out into the apparent nothingness of what is no longer even a matter of indifference, but rather is simply forgotten."⁵⁶

The persistent ascription of an illusory nature to the image and thus of a cleavage between image and world contributes to the foreclosure of a relational approach. From this perspective, the agency of the televisual does not dissipate in the "sedative consumption" of images.⁵⁷ Rather, such narcissistic effects suggest

⁵⁴ For a discussion of telepresence and its cultural implications, see Hubert L. Dreyfus, *On the Internet* (London, Routledge, 2001).

⁵⁵ Daniel Boorstin's position, for example, is that the image refuses the world. There is something inherently contrived and 'pseudo' about the image that the 'spontaneity' of reality must be extricated from. *The Image: A Guide to Pseudo Events in America* (New York: Atheneum, 1975). See also Christopher Lasch, *The Culture of Narcissism* (London: Abacus, 1980). Others who hold a similar position are discussed throughout this thesis. The work of Albert Borgmann, who draws on Boorstin and for whom the image represents the ultimate attenuation of the world, is discussed in Part 4. The critical perpetuation of a 'sign-world' rift is not the preserve of theory. It is also perpetuated by the techno-cultural discourse of images themselves. In the Steven Spielberg directed film *Minority Report*, (Twentieth Century Fox and Dreamworks, 2002) there is a memorable icon that simulates this mythic nature of images. A man in profile confronts a holographic image of a woman, also in profile. The image is of a presence constrained by filaments of light pulling 'it' back into the flat projection and equally by its belonging to a recorded past.

⁵⁶ Martin Heidegger, "On the Essence of Truth," trans. John Sallis, *Pathmarks*, ed. William McNeill (Cambridge: Cambridge University Press, 1998) 147.

⁵⁷ The idea of 'sedative consumption' comes from Felix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton (London and New Jersey: The Athlone Press, 2000) 41-2. The Greek tale of Narcissus, who wastes away before his beloved reflection, has often been called upon in relation to the 'consumption' of images. See Boorstin *The Image: A guide to pseudo-events in America* 157. David Michael Levin reads narcissistic character disorders as a consequence of the 'metaphysical ego' and its 'ontology of the image' in Levin, *The Opening of Vision: Nihilism and the Postmodern Situation*. (London: Routledge, 1988). We discuss Levin's work in Part 2.

the generative power of the image and demand a broader understanding of its designing, such as implied by Baudrillard's work on the 'sign economy'.

This tendency to understand the image as both unreal and de-realising points to a certain problem of idealism hinted at earlier: the image can make relations only by being blind to its relation to those relations; the image can only make the world apparent by excluding its productive role in bringing the world to presence. The image is constituted on the basis of this paradoxical logic, which is well-trodden theoretical ground and goes back to classical antiquity. It hinges on the problem of contingency, the impossibility of gaining an objective or outside perspective.⁵⁸ The dilemma of logic entailed by representation is destabilised, however, if it is considered from the perspective of the differences that representation makes.⁵⁹

Representation is an idea and the idea is, in Gregory Bateson's words, "a difference which makes a difference".⁶⁰ Representation has caused changes in the world but is unable to recognise or learn from these changes because they cannot be represented. This situation will be explored with the help of the systems-based approach of thinkers like Bateson and Niklas Luhmann, for whom "some form of

⁵⁸ Modes of thought experience crisis only when their assumed ground becomes contested. Cary Wolfe indicates another "crisis of crisis" in this regard, the crisis of the crisis of postmodern theory. He argues that contemporary intellectuals now confront a crisis of the pragmatism of their deconstructions. What has critically arisen, he suggests, is the need for postmodern theory to confront its own orthodoxy with the problem of the 'outside' of theory. Cary Wolfe, "Critical Environments: Postmodern theory and the Pragmatics of the 'Outside'" *Theory Out of Bounds* 13, eds. Sandra Buckley, Michael Hardt and Brian Massumi (Minneapolis: University of Minnesota Press, 1998).

⁵⁹ In reference to the 'hermeneutic circle', which will be discussed further in Chapter 1, Heidegger says "...It would be more ideal, of course ... if the circle could be avoided and if there were the hope for once of creating a historiography which is as independent of the standpoint of the observer as the knowledge of nature is supposed to be.

But to see a vitiosum in this circle and to look for ways to avoid it, even to 'feel' that is an inevitable imperfection, is to misunderstand understanding from the ground up." Heidegger *Being and Time* 143.

⁶⁰ Gregory Bateson, *Steps to an Ecology of Mind* (Chicago and London: The University of Chicago Press, 2000) 271. Bateson also describes 'information' as a temporality of differences: "The technical term 'information' may be succinctly defined as *any difference which makes a difference in some later event*" 381.

difference ... ‘unfolds’ the unity of self-reference”, gives it ‘life’.⁶¹ The systems approach does not do away with the binary structure because it can be shown to occur within the paradigm of representational thinking. Rather, it allows an understanding of both the error *and* the actuality of representation. The de-centred, systemic approach of ontological design reveals the binary structure as designed into the world.

The shape of this thesis reflects the complexity of bringing together ‘ecology’ and ‘image’. There is much setting up to be done and as we draw to our final proposal there is an undeniably dramatic tapering from the epic problem. This is an inescapable consequence of the nature of the problem we are trying to expose and address. We also refer to and make use of a very broad range of ideas, and this requires a certain heavy handedness in mobilising disciplines of thought. Specifically, I characterise ‘cultural theory’ as a more reflective, humanities-based discipline of thinking, and ‘design theory’ as a more instrumental, scientifically-inclined discipline of thought. This is not, of course, to suggest all thought under the banner of ‘culture’ is reflective and all thought under the banner of ‘design’ is not, nor that these modes of thought necessarily arise from distinct traditions.⁶²

This thesis lies between these disciplinary tendencies and attempts to bring them into a dialogue. It draws on the insights of ontological design as developed in different ways by Fry and Winograd and Flores, which in turn rest on the work of Heidegger. It also draws on moments in the work of key theorists whose perspectives emerge from very different worlds but whose thought contributes in important ways to a design approach to the image: Maurice Merleau-Ponty, whose notion of the ‘flesh of the world’ makes the perceptual leap that the ecology of the image presupposes; Luhmann and particularly Bateson, whose “ecology of mind”

⁶¹ John Bednarz Jr in his introduction to Luhmann, *Ecological Communication* xiv.

⁶² Cultural theory arises in part from the science-based discipline of anthropology as well as from literary theory and the arts.

made possible the emergence of ‘ecosystemic’ thought⁶³; Baudrillard, whose early work on the nature and intent of the sign is particularly open to design appropriation; and Manzini, a design thinker with one of the highest profiles in design-led strategies to change Western consumption patterns, whose work opens cultural questions at the heart of industrial design. I also draw on the work of Elaine Scarry, whose approach to the reciprocity of made things offers an evocative and useful intuition of what design actually is; and the sociologist Ulrich Beck who reveals that ecological problems are difficult to sense because they do not occur as single, observable events — which is how we tend to rationalise them — but relationally. The insights of certain other thinkers are crucial in particular sections of this thesis. David Michael Levin helps us to understand Heidegger’s thought on technology and vision in relation to what he calls the ‘frontal ontology’ of our age; and Samuel Weber creates an enabling trans-linguistic bridge between Heidegger and deconstruction, illuminating Heidegger’s somewhat “bizarre conversation with ordinary language”.⁶⁴ Albert Borgmann’s approach to the nature of designed things after Heidegger’s total understanding of the technological paradigm informs the last part of this study.

The three chapters of this first Part serve to explain the idea of the ecology of the image by carefully laying out its working concepts and theoretical bases. In Chapter 1, the theory of ontological design is explained. Chapter 2 elaborates the counter-intuitive notion of the relationality ontological design depends on by drawing on: Heidegger’s relational understanding of language; Merleau-Ponty’s metaphors of the visible and the invisible; and Gregory Bateson’s idea of

⁶³According to David W. Kidner, Bateson made the necessary cross-disciplinary leap between biology and ecology that enabled ‘ecosystemic’ thought. Kidner argues that while both the social and natural sciences have learnt from Bateson’s work, it has yet to arrive in the domain of psychology. By normalizing the behavioural, life style and personality configurations associated with environmental destruction, psychology has not been able to find a voice to contribute to the ecological debate. Kidner, “Why Psychology is Mute about the Environmental Crisis” *Environmental Ethics* 16 (1994) 359.

⁶⁴Weber, “Upsetting the Setup” *Mass Mediauras* 56.

‘ecological communication’ (to borrow a title from Luhmann). In Chapter 3, we bring the idea of relationality to the context of the industrial product and explore the limits and opportunities of Manzini’s understanding of an ecology of the artificial. In this chapter we introduce the idea of the ‘pro-duct’ — pro (forward) duct (link).⁶⁵ The pro-duct allows us to specify our critique of monolithic productivism, and avoid soaring over and thus dissipating the specificity of designed things, which Bateson describes as the “thousands of cultural details.”⁶⁶ The pro-duct is both the object of and manifests a different activity and understanding of designing, premised on relationality rather than the logic of representation.

In Part 2 we return to the televisual in light of these enframing concepts to consider its ontological designing and its objections to the development of a more relational literacy. We gather evidence for the proposal that television makes manifest a vision of representation — a way of seeing ‘correctly’ that naturalises the concealment of relationality. We then consider a case study of this televisual proposal: the role of the image in the discourse and practice of environmentalism.

Part 3 explores how the development of a more relational intuition in light of the televisual might be achieved. We argue that the current circumstances of unsustainability, which we have linked to the world-making of the vision of representation, warrant the development of a ‘de-sign’ practice, in which the mechanism of the sign and the acquired interpretative skill of reading signs can be introduced and mobilised in a design context. Specifically in this Part, we seek to

⁶⁵ The notion of the ‘pro-duct’ was first developed by Tony Fry at the EcoDesign Foundation in 1992. It was then elaborated in relation to the practice of planning in a paper written by Fry for the international *Portraits of Planning* Conference held in Adelaide in 1995 and in another unpublished paper from 1995 “Ecodesigning the mainstream: the question of planning and the making of another way.” Since then, it has become part of the Foundation’s general lexicon of terms.

⁶⁶ Bateson suggests that ecological problems emerge when our familiar, Western epistemological values “become reinforced by thousands of cultural details.” *Steps to an Ecology of Mind* 493.

retrieve, from semiotics, the sign as a significant tool for revealing the “naturalised artificial” conditions of our lifeworlds.⁶⁷

The final Part of this thesis focuses on bringing a cultural approach to what is possibly the least reflective of design disciplines, that of product design. In this, we bring into dialogue the conventionally opposing movements of analytical *de-description* and design *in-scription*.⁶⁸ We de-sign the telegenic product, which is hard-programmed to be environmentally ignorant and which is revealed, via analysis, in relation to its foreclosed histories and cultural effects. We address the suppression of a cultural understanding of unsustainability in technical design and finally, drawing on key moments in the unfolding of the thesis as theoretical resource, offer a strategy whereby the designing power of the image is revealed in the conduct of design practice and redirects that practice.

⁶⁷ Made or artificial culture becomes the withdrawn condition of our modern dwelling, and is thus ‘naturalised’. The implication of this is that nature is not knowable outside the artificial and thus that the artificial is “the only available domain of ecological concern and action.” Fry, *Remakings* 79.

⁶⁸ I draw this distinction from Akrich and Latour’s semiotic lexicon. The entry under “Script, description, inscription, or transcription” reads in part “the de-description, usually by the analyst, is the opposite movement of the in-scription by the engineer, inventor, manufacturer, or designer (or scribe, or scripter to use Barthes’s neologism)...” Madeleine Akrich and Bruno Latour, “A Summary of Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies” in Bijker, Wiebe E. and John Law eds. *Shaping Technology/Building Society: Studies in Sociotechnical Change* (Cambridge: Massachusetts Institute of Technology, 1992) 259.

CHAPTER 1. ONTOLOGICAL DESIGN

Ezio Manzini has suggested we live in a world of unrestrained making and not enough designing. This is related to a problem of design ethics: “the debate on ethics, which is defined in relation to large choices, is hard to articulate in relation to the smaller and more minute choices made in the manufacture of daily objects.”¹ Many design theorists have taken issue with how design plays out in the critically immune realm of industrial production and consumption. In this world, design is a largely instrumental activity. The forms of products replicate and proliferate in the context of a narrowly economic paradigm, without reflection on questions of quality.

Certainly the idea of design has significantly changed over the course of the 20th century. In much contemporary design discourse, this change is generally considered to be an erosion of quality that parallels the rise of the cultural presence of the image.² Jan van Toorn suggests that design is in danger of becoming simply a visual rhetoric of ready-to-use pieces, wherein a distinction between design and technology hardly exists. Design education is criticised as being bereft of a culture of research and of being primarily concerned with the transmission of instrumentally practical skills in “generating the culture industry in its worst form”, that is, precisely the bringing to reality of the vacuous, superficial

¹ Ezio Manzini, “Prometheus of the Everyday,” *Discovering Design: Explorations in Design Studies*, eds. Victor Margolin and Richard Buchanan (Chicago: University of Chicago Press, 1995) 220.

² Peter-Paul Verbeek and Petran Kockelkoren lament the ‘Platonism’ of design, arguing that things need to be considered *as* things, not as signs. “The Things that Matter,” *Design Issues* 14.3 (1998): 28-42.

commodity dream-world that is critiqued in many discourses and commonly implicated in the problem of over-consumption.³ Design is something you spread over the surface of things at a point in the process where form and its contingencies have already been determined. The client is there to service, not to question. The design(ing) that is the target of these critiques is directed by the moment of aesthetic realisation; there is little thought or care given to the *being* of what is made and thus forms are generated without thought to their material consequences.

However Manzini's sense that there is not enough designing going on, also implies that design is much more than the reification and multiplication of banal objects. Design is a strategic activity that isn't necessarily even about bringing new things into being. It can also be an unmaking, a replacement of things with services or co-operative use, or a utilisation of what already exists. Design can eliminate things in life-enhancing as well as in destructive ways.⁴ Such an approach depend upon an attention to the cultures that designed things create or sustain, the needs they have generated and the kinds of things that people do with them. Design in these terms is a project, a form of planning and a way of understanding and encapsulating all of those activities involved in bringing forth practically relational things.⁵

³ These comments about the contemporary status of design are drawn from the discussion during the international design conference "Design Beyond Design", documented in Jan van Toorn, ed., *Design Beyond Design* (Amsterdam: Jan van Eyck Akademie editions, 1998) 94; 153.

⁴ 'Dematerialisation'— the replacement of things with services, co-operative use, or electronic media — is a strategy that attempts to reduce material consumption by focussing on delivering the result of a product rather than the physical object. This strategy is elaborated by Ezio Manzini in "Toward a new product-service mix" a paper given at the *Eternally Yours Congress* 1997. The subject is treated much more critically in his more recent work, which reflects on the 'rebound effect' in which materials efficiency in design has actually enhanced the overall 'throughput' of materials. See Manzini, "Scenarios of Sustainable Wellbeing".

⁵ There is a history of considering design as a planning activity, rather than as simply an activity of shaping and synthesising things. Victor Margolin cites a comment made by Laszlo Moholy-Nagy in 1946: "design 'is an attitude which everyone should have; namely the attitude of the planner — whether it is a matter of family relationships or labour relationships or the producing of an object of utilitarian character or of free art work, or whatever it may be. This is planning, organising,

There is, as is also suggested by Manzini's comments, a need to reclaim the significance of design in the face of the problems of material culture. Not simply to claw back a thoughtful design culture that has been overtaken by the disciplines of calculative reason, or even to design better things (which is, after all, often the intent if not the achievement of professional designers). The thing about the significance of design that current conditions demand a recognition of, is its *cultural agency*: design designs, along with things, desires, perceptions, techniques, practices, habits and styles of life all of which have ongoing ecological implications. Design designs, whether designers are conscious or not of what they are sending out into the world. In the current situation wherein an ideological divergence between industrial productivism and environmental conservatism is increasingly tolerated, and where unsustainability has become a structural feature of the environment, this aspect of design is critically important. It both sustains the status quo and can potentially become a more explicit context for design practice, oriented toward cultural change. Yet it is largely overlooked.

Many acknowledge that the West's culture of quantity is disarticulated from ecological consequence — usually indicated by the myopic devouring of its own vital resources — and that this is a problem (though of varying degrees of significance) for securing the sustainability of the ongoing conditions for life. But while this is generally accepted, our worlds are becoming more and more powerfully conditioned by the transcendental promise of technology and the limitless possibilities for life styles it makes available. New, technologically-derived spaces that invite myriad engagements continually open up in the world without, however, promoting any relational sense of the ways in which these 'virtual' environments impact upon, and are generative of, material environments. The destructive propensity of the technological paradigm in its current unfolding

designing." Victor Margolin, *The Politics of the Artificial* (Chicago and London: The University of Chicago Press, 2002) 79.

has been well theorised in this regard, but the design, production, use and disposal of products that make material this propensity, continues regardless.⁶

It is important to acknowledge the significant contribution that individual products of design make to this paradigm. The proliferation of cheap, domestically-oriented image-making technologies for example, assert, by their very nature, that to print out a draft copy of this thesis is nothing. The value of such products depends upon their rate of production of ‘pages per minute’, rather than issues such as durability, resource efficiency, ability to accommodate recycled paper stock or even print quality.⁷ Yet the theory that enables us to see this as a cultural problem and the design theory that lodges the problem *in* the thing (as a composite of material, aesthetic form, energy and performance) rarely meet. The relationship between capitalism’s logic of value-creation without end and the increasingly productive technologies of production, clearly bears a good deal of the responsibility for the ecological crises of our moment. Yet evidence of the unsustainability of designed things is increasingly taken as proof of the nascent state of technology, which translates the ecological (back) into an economic problem.⁸

Getting on with the business of designing for sustainability in this regard often conforms to the productivist intent of material culture: the industrial world

⁶ Bateson draws attention to an affinity between the productivist mind set and technology, specifically the technological augmentation of ‘purposive thinking’. The purposiveness of consciousness is implemented, he says “by more and more effective machinery, transportation systems, airplanes, weaponry, medicine, pesticides, and so forth.” Bateson, *Steps to an Ecology of Mind* 434.

⁷ A Canon advertisement for a cheap range of colour printers promises for example, that you can “fly through documents at up to 20 pages per minute”. In addition, the ranges of home based colour printers have been heavily marketed to children, suggesting they make full colour drawings on the computer and print out the results rather than hand-draw. It is the massive throughput of consumables that subsidises the minimal cost of such machines. It is interesting to contrast this to times when paper was not so seemingly plentiful and cheap, when children learned to draw and write in frugal styles on slate boards and had to earn the right to use the precious resource of paper.

⁸ Aidan Davidson remarks, “Late modern evidence of unsustainability is being taken as proof of the fact that technological progress has not yet gone far enough and that ecological efficiency is first and foremost economic efficiency.” Aidan Davison, *Technology and the Contested Meanings of Sustainability* (Albany: State University of New York Press, 2001) 5.

offers ever more promising practical antidotes and ‘cookbook’ solutions to individuated environmental problems — mainly constituted in forms of agreement with the rational need of the market economy — by inventing ways to *conceal* rather than promote any changes within the status quo of familiar forms. Thus we have an entire new range of more energy-efficient, biodegradable or recyclable versions of familiar products that nonetheless persist in communicating disjunctive, if not erroneous cultures of use. We have for example single-use cameras that are recyclable, disposable plastic bags that are biodegradable, and of course, parallel-hybrid cars that are path-finding for the culture of driving. In spite of their ‘environmentally-friendly’ and in some cases award-winning designs, these products both disown the possibility of cultural change and evacuate the agency of the designed thing itself in effecting change.⁹

Confronted with the problem of shifting norms vis-à-vis environmental accountability, the design industry has responded by installing uniform checklist-based and comparative methods of environmental management. Such methods are structurally incapable of recognising the possibility of a design ethic centred on the ‘small and minute’ choices of design practice, as suggested by Manzini’s comments. Yet it is this incremental level of design that bears the burden of cultural change.

This situation evidences a serious disjuncture between worlds that are brought into being by design and the ecological consequences of these worlds. The complex and extensive nature of this disjuncture extends from image perception and interpretation into the very design of things and is sustained by the relationships that things invite by design. In these conditions, the cultural agency of design mostly escapes the senses.

⁹ As we shall see, environmental methodologies that work on the embodied ‘impacts’ of things rather than raising the question of the need for things in general, sacrifice peripheral vision and fail to recognise the agency of the product.

The image-led erosion of design that so worries some design theorists is not a matter of concern outside design theory, education and practice. Generally, design in everyday life is a known domain; the design(ed) object is a completed work of design that can be brought before one. The object is a resolution of the effort and skill of the designer, the quality of the materials and the precision of manufacture. Design is also understood as a professional activity of aesthetic planning, which is brought to completion in the delivery of the designed thing. Often a designed thing is perceived as merely a materially elaborated look — a ‘designer’ object, which is viewed by some critical design discourse as the most abhorrent branding of design.¹⁰

According to Manzini, the idea that the artificial product is a unitary project has given rise to “a delirium for power by the designer-demiurge, who designs and produces a total environment, from a spoon to a whole city.”¹¹ This kind of determinism is evident in several ‘world scale’ projects in the 20th century.¹² The issue of the location of agency in the commonplace understanding of design is inseparable from the linear model of causality that is the mainstay of rationalist thought and the discourses it supports. In a design context it would go something like this: a (more or less creative) designing subject designs an object that through the design process becomes imbued with their intention, which fits

¹⁰ A critique of the social irresponsibility of ‘designer’ products is made for example in Nigel Whiteley, *Design for Society* (London: Reaktion Books, 1994).

¹¹ Manzini, “Prometheus of the Everyday” 229.

¹² Le Corbusier’s famous “all-in-one” the Unite d’habitation, which was conceived as part of a broader urban design and social planning project, is an example of modernist environmental determinism where the agency of the designer conducts and brings to order an entire environment of things. The failure of an urban design ‘mission’ like the South American city of Brasilia designed by Oscar Niemeyer (who had worked under ‘Corbu’ and designed the Brazilian Pavilion for the New York World’s Fair in 1938, the same year as Heidegger’s “The Age of the World Picture” was written), offers a spectacular example of environmental determinism’s lack of engagement with the directional agency of things. Tellingly, the motto of Juscelino Kubitschek de Oliveira, who was president in 1956 when work on Brasilia commenced, was “50 years in 5”. Fry’s *A New Design Philosophy* explores the history of the nature of such designing, for example the New York World’s Fair’s production of desire for a new world. James Holston explores Brasilia as a pre-eminent construct of modernity in *The Modernist City: An Anthropological Critique of Brasilia* (Chicago: University of Chicago Press, 1989).

the needs of perceived users to varying degrees of success.¹³ The designed artefact merely serves an instrumental function. Designing in this scenario is always reducible to the conscious intention of the designer, no matter what design ethic is employed.

The linking of design agency to the designer source is clear in the Platonic timbre of Bauhaus discourse, where designing became a search for representational ideals in the production of “clear and logical forms, based on rational principles”.¹⁴ This search for ideal type has been theorised as modifying the nature of the encounter with the materiality of things; the meaning of materials simply becomes the most authentic or improved delivery of form.¹⁵ Fry sees the Bauhaus project in terms of a totalist ambition of striving to launch “an object regime of uniform mass symbolic agency”.¹⁶ This is a key point of departure of the sign economy as theorised by Baudrillard, who says that “(t)he ‘object’ only began truly to exist at the time of its formal liberation as a sign function” and that before the Bauhaus there were no ‘objects’.¹⁷ Baudrillard insists that Bauhaus design did not do away with styling, but merely submerged and elaborated it under the sign of ‘functionalism’.¹⁸ Fry makes the point that the theorisation of this form of design agency, particularly as it reveals the emergence of the sign as a commodity form, is dramatically underplayed in design thinking.¹⁹

In a decidedly different context to the advent of thing as sign, Victor Papanek calls for a morally responsible designing that focuses on the material

¹³ Bateson comments on the rationalist approach to things: “The average Occidental...believes that there is a delimited agent, the ‘self’, which performed a delimited “purposive” action upon a delimited object.” *Steps to an Ecology of Mind* 318.

¹⁴ Marcel Breuer quoted in Whiteley, *Design for Society* 9.

¹⁵ This argument is put forward in Verbeek and Kockelkoren, “The Things that Matter”.

¹⁶ Fry, *A New Design Philosophy* 154.

¹⁷ Jean Baudrillard, “Design and Environment or How Political Economy Escalates into Cyberblitz”, *For a Critique of the Political Economy of the Sign*, trans. Charles Levin (St. Louis: Telos Press, 1981) 185. One can hear in Manzini’s work recognition of Baudrillard’s critical transformation of things into the ‘object’ as sign-function. We return to this point in Part 3.

¹⁸ Baudrillard, “Design and Environment”197.

welfare of society. He wants to democratise design, to say that design is a basic human activity rather than the preserve of specialists. Widely considered to be a founding figure of ‘ecologically conscious design’ or ‘ecodesign’, Papanek’s nemesis is consumerist design, the practice of which he describes as akin to what would happen “if all medical doctors were to forsake general practice and surgery and concentrate exclusively on dermatology, plastic surgery and cosmetics.”²⁰

Papanek promoted a vision of an ideally transformed society that operates on a socially and ecologically equitable basis. His key point was that design needed to develop a conscience. Writing on the issue of the incommensurability of urban design and the development of a sense of community, Papanek argues that the modern city has lost its centre and that the project of urban design should therefore be one of recovery.²¹ A common humanist theme is echoed in this argument; the way to a better life in the modern world is to find the ‘unified moral core’ that we have lost.²² In this approach there is a sense that human intention is everything — design is the conscious effort to impose meaningful order and material things again become the mere means of the delivery of the vision of the designer. Papanek is one of a very few designers who have addressed the ethics of consumer products. His work has played an extremely important role in raising the issue of design’s social responsibility and transformative power. However, in articulating the broad needs that design should service, Papanek misses the *de-*

¹⁹ Fry refers to the above Baudrillard essay on the Bauhaus. Fry *A New Design Philosophy* 154-160.

²⁰ Victor Papanek, *Design for the Real World: Human Ecology and Social Change* (London: Thames & Hudson, 1984) 247.

²¹ Victor Papanek, *The Green Imperative: ecology and ethics in design and architecture* (London: Thames & Hudson, 1995) 195.

²² Such a project is exemplified in some aspects of social psychology that read contemporary technological life as having a ‘fragmenting’ and ‘schizophrenic’ effect on the self. See for example Kenneth J. Gergen, *The Saturated Self: Dilemmas of Identity in Contemporary Life* (New York: Basic Books, 1991). However as McLuhan notes “...the aspiration of our time for wholeness, empathy and depth of awareness is a natural adjunct of electric technology.” *Understanding Media* 5.

centred agency of design, which subjects the vision of the designer, regardless of its ethical integrity, to inevitable fracture.

Phenomenologically, the situatedness, order and power of design agency requires a somewhat different explanation than simply being put down to the world-view of the designing subject, particularly regarding the question of what designed things *themselves* do in the context of human practice. Ontological design offers such an explanation as well as a new direction for design thinking. Fry maps three interrelated aspects of design that together introduce the ontological approach:

1. The design object — any product of design;
2. The design agency — the designer designing, or the design tool (software, pattern, a drawing, instruction, specifications); design education and the designed thing as it acts on (the) world;
3. Design in process — the system, organisation, conduct and activity of designing “which is the on-going designing that is the agency of the designed object as it functions or dysfunctions.”²³

The idea here is that design is always more than the conscious or unconscious agency of the designer.²⁴ It is a projection of tacit understandings as well as conscious interpretation, and further possesses a thingly force — its ‘own-weight’ in Don Ihde’s terms.²⁵ Design in this context of relations is not plural or ambiguous, but is a de-centred practice in which things as well as people design —

²³ Fry, *A New Design Philosophy* 6

²⁴ As will be presented in the following explanation, ontological design’s recognition of the existing design environment, the pre-figurative nature of understanding and the inevitable partiality of interpretation, remove it from the modernist environmental determinism of designers like Le Corbusier.

²⁵ In his *Technology and the Lifeworld*, Ihde offers a phenomenological account of design agency that bears some relation to the ontological theory of design. He describes all technology as ‘technology-to’, dependent on its context for a (relative) identity. However technologies for Ihde also have their ‘own weight’, they are not neutral, merely beholden to the designer’s intention, but co-shape the uses made of them. This aspect of Ihde’s work and what it has to say about the experience of the materiality of things is discussed in Verbeek and Kockelkoren, “The Things that Matter” 36.

design *designs*.²⁶ This implies that there is a circularity to design, that the designed thing acts back on the human agent, modifying desires, habits, expectations, actions and the conditions of interpretation. Elaine Scarry offers an eloquent analogy for this ontological relationality when she says that the made object is never just ‘for-itself’ but is “a fulcrum or lever across which the force of creation moves back onto the human site and remakes the makers.”²⁷ This ability of designed things to alter the condition and behaviour of other things constitutes the ethical focus of ontological design. It is not that the thing simply possesses human-like intent (while it may sometimes be useful to ask of a designed thing what it ‘knows’ about its users)²⁸ but that it materialises understanding of its present world and is thus disposed to(ward the) world in particular ways. Scarry suggests that in order to understand what kind of a world-making activity design is, we need to examine the structure of the actions that things design. There is, however, a strong resistance to thinking about design in this way, as the products of design are generally understood as the end point of the design process rather than its beginning, particularly in the aesthetic design culture lamented by the design theorists referred to earlier. Designed objects are fixed and fetishised points

²⁶ John A. Walker says that “design causes ‘ambiguities’ because it has more than one common meaning: it can refer to a process (the act or practice of designing); or to the result of that process (a design, sketch, plan or model); or to the products manufactured with the aid of a design (designed goods); or to the look or overall pattern of a product (‘I like the design of that dress’). Yet this still stops short of the observation that design designs. *Design History and the History of Design* (London: Pluto, 1989) 23.

²⁷ Elaine Scarry, *The Body in Pain: the Making and Unmaking of the World* (New York: Oxford University Press, 1985) 307.

²⁸ In *The Body in Pain* Elaine Scarry speaks of the ‘sentience’ of things involved in reciprocal relationships of care with their human users. The anthropological projection is also a strategy used by Kockelkoren in his project to ‘de-Platonise’ things, for example in “Towards a Technological Intimacy with Things”, *Research in Philosophy and Technology* 17 (1998): 45-57. In this essay he takes issue with Jean-Paul Sartre, for whom, he says, there is nothing worse than to be a thing. “Human beings now... rip open the Earth, blow up mountain ranges, and pollute the oceans and the air... Things will not stand for this indefinitely, and according to their own natures, are rebelling noiselessly. Once they kindly invited human beings to allow themselves to coincide with themselves; from now on they will force humans to do so through harassment.” (47).

around which design activity revolves — for example, in design magazines, competitions and awards — and in which it dissipates.

With Scarry's image of the artifact as 'lever', the reciprocation of the designed exceeds the initial projection of designing. This is particularly the case in mass production, whereby any design idea can have substantial material, cultural and economic consequences. Ontological design puts forward the proposal that designed things change culture in incremental, though powerful ways. It is through designed things that reality is revealed — and we are open to seeing aspects of the world that we have never seen before. And as design opens reality, it also changes reality. Thus all design is ontologically directional, whether we 'know' about it or not. The difference is that as a practice "ontologically biased design comprehends direction."²⁹ Design in these terms demands awareness of the presence of informing relations, giving the catch-phrase 'designing with environment in mind' a new significance.

Ontological design is a relational theory that recognises and acts upon our designing in and by environments of concern. It seeks to overdetermine rationalism's cause-effect dynamic of passive contemplation preceding intentional action. Rather, ontological design reads the 'act' of thought as itself a form of designing. For Winograd and Flores, whose design thinking shares some of the same philosophical bases as Fry's,

(t)he most important designing is *ontological*. It constitutes an intervention in the background of our heritage, growing out of our already-existent ways of being in the world, and deeply affecting the kinds of beings that we are. In creating new artefacts, equipment, buildings, and organisational structures, it attempts to specify in advance how and where breakdowns

²⁹ Fry, *A New Design Philosophy* 74.

will show up in our everyday practices and in the tools we use, opening up new spaces in which we can work and play.³⁰

While “(w)e cannot directly impose a new structure on any individual ... whenever we design changes to the space of interactions, we trigger changes in individual structure — changes to the horizon that is the precondition for understanding.”³¹ In this way “(t)he world determines what we can do and what we do determines our world.”³²

This ontological perspective was disclosed to Winograd and Flores through their apparently chiasmic activities of reading the hermeneutic phenomenology of Heidegger and Gadamer and designing computer technology. For Winograd and Flores computers — which, in spite of their ‘inhumanity’ have earned a notable status for forcefully throwing light onto the nature of human being — have a particularly powerful impact as they are machines for acting in language.

(O)ur understanding of the computer centers on the role it will play in mediating and facilitating linguistic action as *the essential human activity*. In asking what computers can do, we are drawn into asking what people do with them, and in the end into addressing the fundamental question of what it means to be human.”³³

The ‘domains of action’ of a designed device like a computer, are based on an interpretation of ‘data’, ‘goals’, operators, and so forth. They say that in working with computers we assume their built-in interpretations and develop patterns of language and action that reflect them, which carry over into our understanding of ourselves and the way we conduct our lives.³⁴

³⁰ Winograd and Flores, *Understanding Computers and Cognition* 163.

³¹ Winograd and Flores, *Understanding Computers and Cognition* 178.

³² Winograd and Flores, *Understanding Computers and Cognition* 177.

³³ Winograd and Flores, *Understanding Computer and Cognition* 7.

³⁴ Winograd and Flores, *Understanding Computer and Cognition* 178. Donald Norman indicates the ‘misfit’ between the precise, binary logic of information systems and the flexible, ambiguous

According to Winograd and Flores' careful exploration of how we work with computers, the computer reveals its dependence on Cartesian rationalism and its background understanding of cognition based on the systematic manipulation of representations, which has engendered a blindness to what computers do, and particularly to their ontological significance. They explore the ontological fit that occurs between computers and their human counterparts in spite of the erroneous thinking upon which computers are based. Computers *mobilise* a misinterpretation of human cognition and language.

Winograd and Flores were interested in what happens ontologically when we create and work on new devices (and they work on us, and we work on them), and how possibilities for innovation arise. The general pattern of design innovation currently projects, in more and more sophisticated and 'smart' forms, the background assumptions and tacit understandings of rationalism. Given the familiar scenario of shops full of types and versions, this could be characterised as an 'object-oriented' designing that appears to be expanding despite a growing environmental sophistication in the sector. 'Object-oriented' designing is fundamentally disinclined to a relational view of its world. In this respect, part of the ontological design project can be understood as an intervention into the automaticity of design innovation, opening possibilities for new cultural outcomes: "(t)he creation of a new device or systematic domain can have far-reaching significance — it can create new ways of being that previously did not exist and a framework for actions that would not have previously made sense."³⁵

In "Redirective Practice: Ontological Designing" Anne-Marie Willis says that ontological design is a practical theory involving a hermeneutics of the nature

and intention-oriented understanding of humans. Donald Norman, *The Invisible Computer* (Cambridge Mass.: MIT Press, 1997).

³⁵ Winograd and Flores, *Understanding Computer and Cognition* 177.

and agency of design, as well as an argument for new ways of going about design activity, “especially in the contemporary context of ecological unsustainability.”³⁶

Ontological design is therefore a mode of concurrent research and making that might be characterised as moving in two related directions. First, it is *de-scriptive* in that it works back from the cultural ‘feel’ of designed things; in the case of Winograd and Flores’ work this involves the conversations people engage in when they cope with and anticipate instrumental (computer) ‘breakdowns’. This reading/researching activity is a way of understanding how designs work and how designing happens — not a forensic analysis of things, but a way of seeking to understand the implications of the practical and material relationships organised by design. It is crucial in the contemporary context because the only way to design things more appropriately is to learn to read the cultural context of design; what design has enabled people to do, to share and to become. The second direction is concerned with how this reading contributes to a design process “in which new possibilities for interpretation and action emerge.”³⁷ The two emphases of interpretation and action are neither linear nor self-enclosed, but are always already wrapped up in each other and in the practical situation: interpretation is itself a form of ‘world-making’.

The theory of ontological design rests on insights drawn from the hermeneutic phenomenology of Heidegger and Hans-Georg Gadamer. Both philosophers assume the fundamental relatedness of people to their world and in this reject the priority of human agency implied in the rationalist tradition. Heidegger’s work can be read as a systematic and careful dismantling of a history of thinking about being and world premised upon representation. In everyday life, it is how things are perceived and experienced (phenomenology) that enables an understanding of the conditions of and for being (ontology). Heidegger rejected

³⁶ Willis elaborates the Heideggerean underpinnings of ontological design in “Redirective Practice: Ontological Designing”, a paper given at the *Design Cultures* conference, Sheffield-Hallam University, 1999.

the ‘parallel universes’ of Descartes mind-body dualism, where the objective world of physical reality is separate from the internal subjective world of the thinking individual, arguing that this separation denies the more fundamental unity of being-in-the-world. Heidegger’s claim was that because we are always already ‘thrown’ in a world-involved condition, human access to ‘what is’ is always interpretative.

Following Heidegger, Gadamer elaborated a theory about the inevitable partiality and prejudice of human understanding in his concept of the hermeneutic circle. In this circle, the meaning of any thing is contextual, depending on the moment of interpretation and the horizon of understanding brought to it by the interpreter. We have a ‘pre-understanding’ or prejudice from which interpretations develop:

It is not so much our judgements as it is our prejudices that constitute our being...the historicity of our existence entails that prejudices, in the literal sense of the word, constitute the initial directness of our whole ability to experience. Prejudices are biases of our openness to the world. They are simply conditions whereby we experience something — whereby what we encounter says something to us.³⁸

This understanding of the circular relation of pre-understanding and interpretation is crucial to ontological design. Our understanding – the horizon of our knowing – delineates appearances. What is there before us is a product of our interpretation.

Edgar Rubin’s well-known ambigram, the figure-ground image of two facial profiles that together form the figure of a vase, offers a way to describe this.³⁹ The image is drawn from the Gestalt suite of images developed to visually

³⁷ Winograd and Flores, *Understanding Computers and Cognition* 179.

³⁸ Gadamer quoted in Winograd and Flores, *Understanding Computers and Cognition* 32.

³⁹ M.C. Escher’s drawings offer an interesting development of this ambivalence, representing the mutual enfolding of sign and world. An example is “The Picture Gallery” of 1956, which Maturana and Varela utilise as a formal explanation of cognitive circularity: “The picture (the boy) looks at is gradually and imperceptibly transformed into...the city where the boy and the gallery are! We are

argue the phenomenal coherence of the world of everyday experience. Rather than placing an emphasis on Gestalt theory's eidetic or theoretical determinism, I want to draw attention to the depiction of relationship and interpretation in this image. The two figures, faces and vase, cannot be seen together as they share the same delineation; in order to see either one, the other must recede into the background. This figure-ground reversal is not, however, an agonistic confrontation of two discrete forms battling for attention. There is a mutual dependency that the disposition of the forms — one binary and one centric — bring to light. We understand that the two 'potential' figures exist together, and that as we perceive one figure, the other is always present. The image brings to light the irresistible urge to organise vision into figure and ground.⁴⁰ In this respect it is a mechanism for suggesting to us the hermeneutic nature of perception.⁴¹

The phenomenological notion of prejudice in the hermeneutic circle provides a way of understanding design as occurring within a horizon of intuitive understandings. The forming of materials embodies an understanding of what it means to design. The things made gather understandings and send them forth, creating worlds. 'World' in this sense does not appear before human beings as a complete picture, but is disclosed by human beings in domains of activity with worldly things. The structure of world is constituted in what Heidegger calls "a relational totality of significance", each thing appears in the space and time of its

unable to locate the starting point: Outside? Inside? The city? The boy's mind? Recognising this cognitive circularity, however, does not constitute a problem for understanding the phenomenon of cognition. On the contrary, it constitutes the starting point..." Maturana, Humberto R. and Francisco J. Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding*, trans. Robert Paolucci (Boston and London: Shambhala, 1992) 243.

⁴⁰ Ian E. Gordon, *Theories of Visual Perception* (Chichester: John Wiley and Sons, 1989) 52.

⁴¹ Though Gordon suggests that the dominant psychological interpretation is that the figure-ground separation in vision is biophysically derived: we are built to see this way (52). Whilst Gestaltists argued for the fixed nature of perception, their theories stressed the significance of everyday phenomenal experience for understanding perceptual processes. So while the concepts of *Prägnanz* (the tendency toward perceiving coherence), perceptual constancy (a kind of 'corrective' quality to perception) and *Gestaltqualität* (the special excessive quality of form: the whole as more than the sum of its parts) can be seen as thoroughly ocularcentric, they can also be read in terms of the

being engaged by human beings, oriented with others, from and toward others. In this way, the world *worlds*.⁴² As Heidegger argues in his essay “Building Dwelling Thinking”, learning to dwell appropriately in our worlds requires an understanding of this relationship between thought and making. He says we make our locations but we are also made by them, for the boundary or horizon is not where something stops, but rather where something *begins its presencing*.⁴³

The reading/researching activity of ontological design depends on an attention that we do not usually give the products that make way for our everyday activities. When a needed thing is broken or unavailable, the flows of design-enabled activities are obstructed and the worldly character of the designed thing shows up for theoretical reflection. This world disclosive character of the ‘breakdown’, elaborated in *Being and Time* in relation to the ontology of equipment, is a key Heideggerean term drawn upon by Winograd and Flores. For them, the breakdown constitutes a situation of non-obviousness that affords opportunities for new distinctions in language to emerge.⁴⁴ Such distinctions enable the determination of potential breakdowns and help us to anticipate and cope with them. This then provides the fulcrum of opportunity for design innovation in broadening the parameters of coping. For example, the way design manages the experience of breakdown determines whether the broken down thing gets designated as waste, whether there is a service context that can be called upon, whether the user can intervene and return the product to workable readiness or whether it can be transformed into some other useful form.

determinant role ascribed to relationship; the mutual dependency of figure and ground. These concepts are described in Gordon, *Theories of Visual Perception* 56.

⁴² Heidegger, “The Origin of the Work of Art” 44.

⁴³ “A boundary is not that at which some thing stops but, as the Greeks recognised, the boundary is that from which something begins its presencing. That is why the concept is that of *horismos*, that is, the horizon, the boundary.” Heidegger, “Building Dwelling Thinking” *Poetry, Language, Thought* 154.

⁴⁴ Winograd and Flores, *Understanding Computers and Cognition* 69.

Most contemporary products diligently attempt to erase the experience of non-obviousness and the opportunities it may afford. We are generally thrown into a transparent trajectory of “suavely efficient” useability whose determining conditions remain concealed.⁴⁵ The ‘disposition’ of designed things oriented toward perfect transparency is continually enhanced by the technological paradigm that, as Heidegger shows, we are both *in* and *of*. Mostly, technological problem solving involves the *subtraction* of the interpretative agency of the user as much as possible from a machine’s operational system (often in tandem to the product’s semiotic declaration of performance). It is useless and sometimes dangerous, for example, to ‘tinker’ with many modern products.⁴⁶ In addition to a reduction in mechanical competency, the user is also disarticulated from environmental effects. This situation has an impact on our ability to cope with breakdowns, which shapes consumer expectations of products, which becomes the impetus for further designing out user understanding and agency, which further expedites a technologically empowered trajectory of object-oriented innovation ...and the background cycling of relational erasure continues.

To take an example, consider the impacts of fossil fuel production due to escalating demand for power in urban environments. What will happen when the interior lighting is simply a given? Infrared and ultra-sonic light sensors detect when people enter and leave rooms, turning lights on and off. In the building

⁴⁵ Dreyfus quotes John Dewey on his version of ‘breakdown’; “the more suavely efficient a habit the more unconsciously it operates. Only a hitch in its workings occasions emotion and provokes thought.” Hubert L. Dreyfus, *Being-in-the-world: a commentary on Heidegger’s Being and Time Division I* (Cambridge and London: MIT Press, 1991) 70.

⁴⁶ Largely this is an attempt by manufacturers to design out risk and culpability for accidents. At the same time, numerous products released prematurely fail due to issues of safety or functionality and still others whose risks are less attributable, continue to be marketed and sold. Beck notes that industrial innovation itself emerges as a kind of large scale ‘tinker-science’: “Nuclear reactors must be *built*, artificial biotechnical creatures must be *released into* the environment, and chemical products must be *put into circulation* for their properties, safety and long-term effects to be studied. Moral, political and logical problems lurk in this reversal of experiment and application, in this fusion of research and technology into a new type of *manufacturing tinker science*, in a society that is itself becoming experimental.” Ulrich Beck, *Ecological Enlightenment: Essays on the Politics of the Risk Society*, trans. Mark A. Ritter (New York: Humanity Books, 1995) 104.

industry these sensors are considered to be discrete ‘energy saving’ products able to solve the problem of people forgetting to turn lights off. However, occupants’ habits of forgetfulness are reinforced by the new ‘smart’ system in its attempt to take care of the problem. It is a designing out of a particular culture of engagement and communication, a responsibility constituted in the pause at the doorway and the snap of the switch that declares, “I am now leaving” or “...entering this room.” The manual organisation of lighting can be regarded as coming with a whole culture and behavioural ethic that remains in touch with a sense for scarcity, ideas about privacy, absence and needfulness.

Further, such a system is rarely discrete; it usually comes with an extended suite of products on ‘24/7’ standby — office equipment, security systems, ‘set and forget’ climate control — all of which tend to go with the culture of ‘smart’ buildings. The ‘always on’ disposition of these technologies brings with it a raft of new behaviours that fundamentally alter the ethics of incremental environmental decisions, like the decisive act of a single human finger called upon by the conventional light switch. The specific environment found in *this* building is subordinated by such designing to an environmental uniformity, which depends on the transparency, neutrality and continuity of ‘space’ that makes way for an equally uniform subjective desire and intent.

The retraction of lighting as a sphere of concern means that occupants become ever more used to not having to think about such basic environmental conditions, and are less aware over time of the direct relation between the conduct of their activities and their environments. While we live in multiple ‘private’ and ‘public’ worlds, we continuously articulate these worlds, imposing our behavioural modalities on a range of environments. To recall Winograd and Flores, the enfolding of interpretation, pre-understanding and worlding means that our interaction with designed things carries over into our understanding of ourselves and the way we conduct our lives. Design is therefore ontological both in terms of

its explicit shaping of the ways in which we live but also in its background understanding and projection of how things should be.

Tony Fry's *A New Design Philosophy: an introduction to defuturing* is an account of the historical impact of the absence of an understanding that all design(ing) carries this ontological significance. Fry shows that designed things can be understood temporally as creating futures (making or giving time) or taking futures away — forfeiting futures. He argues that design in the 20th century mostly shortened the lifespan of the future, a tendency he calls 'defuturing'. The autonomic designing of the modern technological paradigm has escalated this defuturing tendency as 'man' has developed technological systems with greater and greater capacity to ignore and conceal the fallout of productivism. The background worlding of designed things is ontological designing at its most general — "the undirected world-making of the directional agency of the created world, including its designed forms and processes."⁴⁷ As a naming of worlding, ontological designing serves to bring to the fore the fallout of design's misjudgments.

The tone of Fry's discourse on unsustainability is decidedly negative when compared with the prevailing voice of environmental discourse, which, in insisting on the political efficacy of the oppositional stance, remains trapped in a representational paradigm. The environmental 'good news stories' that achieve an excessive resonance are of a David wins against Goliath type, mild mitigatory measures, or aesthetically 'quaint' items involving a particular object, event or location. The articulation of unsustainability is an extremely nascent and unpopular activity, particularly when it impinges on the lifestyles we engage in and aspire to, which quickly achieve undisputed naturalness by design. Yet pointing out and demonstrating negative examples, including deeply ingrained structural problems, help to clarify what design needs to respond to. To disclose

⁴⁷ Fry, *A New Design Philosophy* 40.

problematic pre-understandings in designed things is not destructive but is explicitly oriented toward learning to intervene in the context of unsustainability. To gather insight into the power of the designed artefact is to initiate a different culture of design.

With Fry and the ontological design community, we contend that unsustainability offers a world disclosive context. Relational investigation, which is capable of transforming familiar empirical interpretations, reveals that many of our intuitive ways of being with things are ecologically destructive. While the image becomes both more important in popular design culture, and more of a problem for critical design culture, the ontological perspective reveals that design's designing is mostly 'invisible'.⁴⁸ We incorporate products as extensions of our own bodies enthusiastically, and largely without pain. As Scarry elaborates: "(t)he natural hand (burnable, breakable, small and silent) now becomes (with the asbestos glove, the baseball mitt, the scythe or the pencil) the artefact-hand (unburnable, unbreakable, large and endlessly vocal)."⁴⁹ However, this painless incorporation does not ensure that design is ethical, that it will take care of us in its invisibility. 'Care' in this respect is not a spontaneous emotion, but is a disposition and a way of being that becomes structural by design.⁵⁰ It is 'built-in' rather than

⁴⁸ Sherry Turkle observes the functional transparency of technological interfaces in *The Second Self: Computers and the Human Spirit* (New York: Simon and Schuster, 1984). For Donald Norman, good design disappears by way of the smooth transparency of well-placed 'affordances'. His argument is developed in books such as *The Design of Everyday Things*, (New York: Doubleday/Currency, 1990) and *The Invisible Computer* 1998. His latest book departs somewhat from this argument. *Emotional Design* (New York: Basic Books, 2004) is a strong advocacy of 'object-oriented' design. In this book Norman argues that things that have aesthetic appeal work better. I think the value in his argument concerns the care and attention of users as much as aesthetics – we tend to 'see' things that call upon the practice of what Albert Borgmann calls focal attention.

⁴⁹ Scarry, *The Body in Pain* 254.

⁵⁰ Heidegger says that 'care' is essentially the condition of being-in-the-world. Heidegger, *Being and Time* 180. We anticipate our environmental conditions, and proceed as 'carefully' as we are able to on the basis of our understandings because our own sustainability is an issue for us. The design implications of Heidegger's 'care-structure' are explored in Fry, *Remakings* 103-112.

attitudinal or emotional. Every day, the newspapers reveal a misfit between this invisibility of design and expectations of care.⁵¹

As Rachel Carson (*Silent Spring*, 1962) and many others since have shown, the unintended consequences of industrial culture mostly disperse slowly and uneventfully, returning in ways that demand new recognition of the directional agency of designed things.⁵²

As we have suggested, we imbue what we design with a disposition informed by our cultural mix of background understanding and interpretation. But we have also said that the designed thing also has its own *intentionality* born of this disposition, into which its users are inducted. The disposition of so many modern products is to lend transparency to our environments, effectively disengaging us from the consequences of our actions.

The notion of design's intentionality is very close to François Jullien's exploration of the relationship between the 'disposition' and 'propensity' of things. Jullien considers how an understanding of this relationship is made possible in and by the polysemic Chinese concept of *shi*. He says that *shi*, particularly in its ancient usage, has an illuminating logic able to disclose "the kind of potential that originates not in human initiative but instead results from the very

⁵¹ During Easter 2002 for example, the market-driven subtraction of preservatives from some processed foods resulted in extensive food poisoning. This consequence was then used to provide an argument for the technology of food preservation. However what this situation evidenced in part was a lack of understanding about relational conditions, specifically that the retraction of food preservation was a 'symbolic' rather than a structural treatment of the problem. Food preservation has engendered particular expectations, habits and cultures of use. If the necessary changes in cultures and habits of use that preservative-free products would incur was both considered and presented, such consequences might have been foreseen as inevitable.

⁵² The work of both Ulrich Beck and Maarten Hajer are important in this regard and both are discussed in Part 2. Another text that warrants mention here is Deborah Cadbury's *The Feminisation of Nature: Our Future at Risk* (London: Hamish Hamilton, 1997). In a journalistic turn upon the tradition of Rachel Carson's *Silent Spring*, Cadbury uncovers the impacts and explores the environmental and human health implications of the oestrogen mimicking synthetic chemicals found in many of our contemporary environments.

disposition of things.”⁵³ He offers a simple image to capture the various aspects of this term:

(If one uses logs and stones on level ground, they remain stable and therefore immobile, whereas on sloping ground they begin to move. If they are square, they stop; but if they are round, they roll down. Disposition includes the particular shape of the object (round or square) as well as the situation at hand (on level or sloping ground). Maximum potential is conveyed by the differing nature of the gradient.”⁵⁴

This understanding of disposition extends to an aesthetic theory; the force of visual and literary form is also conceived in terms of *shi*. Jullien emphasises the difference between the theory of propensity and the Western conception of ‘style’ that proceeds from the Aristotelian philosophy of form. The production of calligraphy and painting is a process of *actualizing* a configuration of the dynamism inherent in reality, rather than the mimetic reproduction of an ideal nature.⁵⁵ The relationship between the figure produced and the movement that produces it is the aesthetic animation of *shi* as the efficacious force that runs through the form. In the tradition of landscape painting, for example, what is depicted are ‘attractions, tensions and interchange’ rather than things *per se*; the *shi* of rocks is conveyed by emphasising their tendency to pile up and press together at the foot of a mountain or of the bolt projected by a cross-bow to fly straight. *Shi* creates “its effect of tension at the exact boundary between the visible and the invisible, where the explicit nature of the configuration becomes more richly charged with implicit meaning, emptiness becomes allusive, and the finite and the infinite illuminate and reinforce one another.”⁵⁶

⁵³ Francois Jullien, *The Propensity of Things: Toward a History of Efficacy in China*, trans. Janet Lloyd (New York: Zone Books, 1999) 13.

⁵⁴ Jullien, *The Propensity of Things* 29.

⁵⁵ Jullien, *The Propensity of Things* 75.

⁵⁶ Jullien, *The Propensity of Things* 84.

While in the West the condition, configuration and structure of things is *opposed* to dynamic force and movement, *shi* affords an understanding of the dynamic *in terms* of the static, propensity in terms of disposition. Such an idea points to what Jullien calls “a troublesome gap in Western strategic thought: the plan drawn up in advance, which is of an ideal nature, and its practical implementation, which renders it subject to chance.”⁵⁷ The figure or thing is not ‘representational’ but directive of an ongoing process that runs through it. The writer’s main task then, is to *determine* rather than render that propensity.⁵⁸ This can also be taken as the task of the designer, to determine “... the directional consequence of the ‘thing-ing’ (on-going effects and environmental impacts) of some thing designed.”⁵⁹

The predominant disposition of Western design coincides with the Jullien’s gap between the ideal advance plan and how it plays out. Design practice operates according to its self-image as product and/or information delivery.⁶⁰ There is little cultural recognition of design’s ‘own-weight’, whether in relation to the set-jaw instrumentalism of many short-life technological products or to the conservative values imbued in many products that invite more enduring relations with human beings.

In ‘thinging’, things support, communicate and disseminate the worldviews that delivered them. Thus there is much to be learnt about where things are headed from unpacking what, or rather *how* they are. Winograd and Flores unpack the rationalism of the computer in order to design environments better able to anticipate and cope with breakdowns.⁶¹ While learning from their project, Fry’s

⁵⁷ Jullien, *The Propensity of Things* 38. ‘Chance’ is an effect of a lack of understanding of the propensity of things that emerges from disposition.

⁵⁸ Jullien, *The Propensity of Things* 89.

⁵⁹ Fry, *A New Design Philosophy* 40.

⁶⁰ This observation is based on comments made by van Toorn, *Design Beyond Design* 11.

⁶¹ “... we are now witnessing a major breakdown in the design of computer technology — a breakdown that reveals the rationalistically oriented background of discourse in which our current understanding is embedded.” Winograd and Flores, *Understanding Computers and Cognition* 79.

design schema sets out a context for ontological design that is considerably broader than Winograd and Flores allow, one that concerns the powerful designed unsustainability of our contemporary world. The broader design *milieu* concerns design as an *ecological* as well as an ontological practice: a shaper of environments as well as beings. While this is already implicit in the nature of ontological design thus articulated, it points to the problematic relationship that exists between understandings of the ‘natural’ and the ‘artificial’, and to the preservation of their difference. ‘Artificial’ things design ‘natural’ ecologies and visa versa; they gather and set in motion relationships that are registered in terms of unintended environmental feedback, which then informs interpretations of the context for future design. Yet ecological effects tend, in Beck’s terms, to disenfranchise our senses, because they betray empirical commonsense.⁶² This disenfranchisement is largely unnoticed because modernity’s structures of explanation account for it.⁶³ However, our ability to respond to the question of

⁶² Beck, *Ecological Enlightenment* 12 – 13.

⁶³ George Myerson points this out in his elaboration of Beck’s argument in *Ecology and the End of Postmodernity* (Cambridge: Icon Books, 2001). In this book, Myerson argues that postmodernity misread the resilience and flexibility of modernity, which has now entered a more dramatic and radical phase with ‘ecology’. In his argument, Myerson opens a space in which to consider the implications of modernisms delegitimation of ‘common sense’. However his theory of ‘ecopathology’ — a radical modernity that portrays big ecological threats lurking in the minutiae of everyday life (a blocked drain pipe becomes evidence of global warming) — Myerson forecloses on the potential of commonsense, or what he calls the ‘sensible view’ to learn a more relational perspective. Ultimately, Myerson fails to suggest what we might be able to do in or with this situation and the reader is left as disempowered as the farmers who do not know what to do with

what design designs is also disenfranchised. This problem demands a re-cognition of the relationality of appearances, to which we now turn.

their blocked drains. I think that Bateson's systemic analysis of 'ecological pathology', discussed below, offers a more practical critique of the colonisation of the world by ideas.

CHAPTER 2. (IN)VISIBLE RELATIONALITY

The idea is ... not a de facto invisible, like an object hidden behind another, and not an absolute invisible, that would have nothing to do with the visible. Rather it is the invisible of this world, that which inhabits this world, sustains it, and renders it visible. (Maurice Merleau-Ponty)¹

As suggested in the introduction, things in our commonsense experience of the world appear to be finite, discrete, whole and inert. Yet an ecological perspective sees things differently. Things are dynamic and interrelated, brought into being by background understandings and giving rise to ways of being in the world. This chapter seeks to negotiate the leap of faith the ecology of the image requires of our commonsense, by exploring the counter-intuitive notion of relationality. It will examine ideas that support the development of relationality and its practical application to the reading/researching activity of ontological design.

Relationality provides the means to think how the biophysical, artefactual and metaphysical things of the world are dynamically articulated. In its mobilisation of the priority of relationship over form, relationality specifically considers how things gather, interrupt and disseminate a flow of material and immaterial relations. Fry indicates that relationality is a way of thinking, based on correlative processes and structures, that draws on ancient Chinese thought; a way of thinking that is fundamentally different and unnatural for contemporary,

¹ Maurice Merleau-Ponty, *The Visible and the Invisible*, trans. Alphonso Lingis (Evanston: Northwestern University Press, 1995) 151.

technologically accelerated Westerners.² The ambivalent structure of *shi* provides us with a glimpse of this difference; *shi* avails us of an understanding of the dynamic *in terms* of the static, and is, as Jullien suggests, something we can learn from.³ No thing for us *appears* to be dynamic, ambivalent or mediated by ideas. So how can our induction into a mode of theoretical disclosure, that believes it sees things as they are, be reworked? Relationality is posited by ontological design as a way.

The idea of relationality in a general sense counters the knowability of the world as Descartes' calculable *res extensa*. The overdetermining complexity of all that is and the dynamism of causal processes cannot be apprehended as a whole. While we can never know the world in its entirety or alterity, we can know that the things of the world exceed our ability to know them and further, that we also have a responsibility toward them as we are inter-implicated in their worlding. The practice of relationality attempts to see things as "situated instances of worlding."⁴ Things bear the material and symbolic marks of design activity and intention, which indicate the culture of their making and use. A relational practice learns to respond to these signs. It also entails an understanding of the particular and habitual nature of our vision, wherein relations must be created as much as discovered.⁵

² Fry further notes that some significant Western scholars have recognised the importance of relationality, namely Gottfried Wilhelm Leibniz as well as the collaborative pair David Hall and Roger Ames. *A New Design Philosophy* 13-14.

³ Jullien says in his introduction: "The logic of *shi* could even pass beyond peculiar cultural perspectives and thereby illuminate something that is usually difficult to capture in discourse: namely, the kind of potential that originates not in human initiative but instead results from the very disposition of things. Instead of always imposing our longing for meaning on reality, let us open ourselves to this immanent force and learn to seize it." *The Propensity of Things* 13.

⁴ Willis, "Redirective Practice: Ontological Designing" 18.

⁵ The consequence of learning to see how we see is itself a powerful designing of difference that is transformative of self and world. Niklas Luhmann's understanding of the practice of self and 'second-order' observation is important in this regard. He says "a system can only see what it can see... (n)evertheless, a system that observes *other* systems ...can also observe the restrictions forced on the observed system by its own mode of operation." *Ecological Communication* 23. Luhmann's thought is explored in relation to the televisual in Part 2.

The attempt to understand things as dynamic and non-linear draws relationality close to the thought of ecology, but relationality differs from ecology in several respects. Particularly, it is the latter's deep attachment to the unmediated character of the world, as well as its authority to access and describe this world, that relationality challenges.

The idea of ecology as it emerged from German romanticism was a way to understand the whole of nature by way of its smaller, knowable parts or 'households', from which knowledge about the world could be extrapolated.⁶ Historians of ecology show how the meaning of the term has changed over time and in relation to the cultural climate. The modern sense of ecology suffers from an identity crisis: it is both the *sign* and the *science* of nature.⁷

Underlying the notion of ecology is a basic faith in objective truth.⁸ It supports both the harmonic vision of the abstinent approach to nature as well as the 'right use' approach of energy economists. Ecology effortlessly absorbs excessive complexity in its belief that the truth of nature can be apprehended. Further, it has little sense of the role of its tools (languages, technologies, methods) in producing this truth, or of the ecological implications of our increasingly electronically-mediated culture, which has fundamentally altered the experience of

⁶ Ernst Haeckel coined the name 'ecology' in 1866 for his study of the patterns of relationship between organisms and their environments. In her history, Anna Bramwell says ecology was used originally as co-terminous with ethology, the study of animal behaviour in its environment, and with *oekonomie*, the concept of 'economical' household management. "This implies that the use and conservation of resources is a moral activity as well as an economic one; and a morality closely bound up with the survival of the group." Anna Bramwell, *Ecology in the 20th Century: a History* (New Haven: Yale University Press, 1989) 15.

⁷ In his definition of ecology Donald Worster says, "The major theme throughout the history of this science and the ideas that underlie it has been the interdependence of living things. An awareness, more philosophical than purely scientific, of this quality is what has generally been meant by the 'ecological point of view'. Thus, the question of whether ecology is primarily a science or a philosophy of interrelatedness has been a persistent identity problem." Donald Worster, *Nature's Economy: A History of Ecological Ideas* (Cambridge: Cambridge University Press, 1994) 471.

⁸ "The ecologist believes that nature embodies eternal reality, and also that the scientific method provides a means of uncovering the truth. There is a scepticism about 'traditional' science but no rejection of objectivity." Bramwell, *Ecology in the 20th Century* 18.

proximity, as Heidegger shows.⁹ The biotechnological redesign of ‘nature’, which clears the way for productivism in so many fields in spite of ethical debates, has also eroded the workability of the concept of an exogenous sphere. Ecology is always already caught up in the problem of making distinctions in language and then attempting to cover its tracks by discovering those distinctions in the world.¹⁰

This problem returns us to the *nature* of that world that we are part of. It is a world of our making that also makes us. It is a natural world in the sense that it is given, as well as an artificial world in that it is human-made. However the world we are born into is also a hermeneutic world wherein the natural and artificial are inextricably intertwined.¹¹ In light of the hermeneutic circle, one must acknowledge that ecology cannot but be a *simulation* of the background process, as it happens out there, indifferently, in the ‘wild’ world. In this world, ecology is “exchange without understanding” — a meaningless complexity of allopoietic relationships which nonetheless impinge meaningfully on and within our culture.¹² Everything hinges on being brought to presence — observed, interpreted, imaged. As Maarten Hajer says, it is our discursive practices that give us our idea of nature.¹³ The worldly proof of ecology therefore unavoidably appears as a set of relations that must be drawn together by an expert in a particular field, designed into a sign, like ‘the greenhouse effect’ to which other events, such as local extreme weather can be made to belong. Yet in order to possess particularly scientific authority, the productive quality of this process of invention must be

⁹ Luhmann’s account of the difference a systems-theoretical approach lends to the detached, scientific view of ecology is discussed further in Part 2.

¹⁰ The etymology of ecology is also suggestive in this regard: *oikos* meaning home, house, dwelling and *logos*, which Heidegger explicates as ‘discourse’ or what we understand by language, “everything that is spoken or sayable”. Heidegger, *The Fundamental Concepts of Metaphysics* 305.

¹¹ Fry, *Remakings* 79.

¹² Fry characterises ecology as “exchange without understanding”, which opens it up as any manner of exchange ‘between’ technological, cultural, biophysical systems. Fry, *A New Design Philosophy* 33.

¹³ Maarten Hajer, *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process* (Oxford: Clarendon Press, 1995).

suppressed, sign and world must be clearly delineated.¹⁴ It is the success of this designing in language that determines the presence of ecology. It was, for example, Carson's powerful image of a 'silent spring' that made real the dangers of DDT in the 60s.¹⁵

One of the most useful thinkers of the sign as a designing power is Jean Baudrillard. He shows us that in the modern world, representation is not the mere re-presentation of reality, but the bringing to reality of reality: *simulation*.¹⁶ In his book on Baudrillard, Rex Butler notes the common error of interpreting simulation as the take-over of the world by the sign. Like ecological exchange, "we never see symbolic exchange as such, but only that sign value which stands in for it."¹⁷ Our simulations do not give us what is *outside* the system, but define the *interior* limit of our systems. However, we live in light of signs of the 'outside'. As Alec McHoul points out, there are whole communities of sign users who operate 'as-if' "there *were* existents outside the signs they use, and in order to make those signs work."¹⁸ Ecology as a discipline does not acknowledge this presence of the sign; it has not learnt to see its own nor nature's designedness.¹⁹

Empirical commonsense tells us that human beings and our artificial things *effect* ecologies but do not *produce* them. The idea that ecologies can be produced by inventions of thought — including ideas about reality, the natural and the artificial — offers a significant challenge to the biophysical bias of the concept. As

¹⁴ See for example Vasseleau's essay "Life Itself", which explores the designing power of medical imaging technologies.

¹⁵ Hajer and Fischer argue that when Carson's 1962 scientific expose of the relational effects of DDT was released, this image is what really captured the public imagination. Maarten A. Hajer and Frank Fischer, eds. *Living with Nature: Environmental Politics as Cultural Discourse* (Oxford: Oxford University Press, 1999) 6.

¹⁶ Jean Baudrillard, *Simulations* trans. Paul Foss, Paul Patton and Philip Beitchman (New York and Brooklyn: Semiotext(e), 1983).

¹⁷ Rex Butler, *Jean Baudrillard: the defence of the real* (London: Sage, 1999) 88.

¹⁸ Alec McHoul, *Semiotic Investigations: Towards an Effective Semiotics* (Lincoln and London: University of Nebraska Press, 1996) 53.

¹⁹ Anna Bramwell's definition is revealing in this regard: "... (ecology) is a total world-view which does not allow for piece-meal reform, ... it believes truth to be attainable, and its attainability to be

Bill McKibben argues in *The End of Nature*, we live in a *post-natural* world.²⁰ We live with ecologies that incorporate the naturalised artificial of the made and interpreted world in articulating relationships between biophysical, psycho-social, cultural and symbolic processes. Relationality offers a way to rework how we see things by wrapping the artificial and hermeneutic worlds into the “flesh” of the biophysical world. It evokes the visible as fundamentally conditioned by the interpretations of human language and perception.

THE RELATIONALITY OF LANGUAGE

Every human act takes place in language. Every act in language brings forth a world created with others in the act of coexistence which gives rise to what is human. Thus every human act has an ethical meaning because it is an act of constitution of the human world. (Humberto Maturana and Francisco Varela)²¹

In the frame of what Winograd and Flores call ‘the rationalistic tradition’ which informs the commonsense of Western culture, scientific language consistently discovers more and more of the objective world through acts of naming.²² In science, the sense that there is much that we do not yet know is not in any way self-reflective, but rather projects the task of the future accumulation of the world through the process of naming things. It is just a matter of time, funds and technology. Scientific discovery — what Heidegger called the relentless “business of knowing (that) bears itself without limit” — refuses the

desireable; it fears the dissipation of energy and resources, and is not anthropocentric.” Bramwell, *Ecology in the 20th Century* 42.

²⁰ Bill McKibben, *The End of Nature* (London: Viking, 1990) 55.

²¹ Maturana and Varela, *The Tree of Knowledge* 247.

²² The profound realism of scientific languages is shown up in much contemporary philosophy — particularly after Wittgenstein’s philosophical investigation of the flexibility and variety of ‘language games’ — by the nominalist understanding that there is no universal reality or metaphysical truth that exists independently of particular cases. Wittgenstein showed that “the limits of one’s language are also the limits of one’s world.” J.G Merquior, *From Prague to Paris: a critique of structuralist and poststructuralist thought* (London: Verso, 1986) 229.

unknowability of the unknown.²³ The methodologies of scientific naming and bringing to presence constitute a particular disposition toward things that resonates in the things themselves.

Heidegger tells us that we are inducted into a way of seeing via our language. He says "...language is the house of Being in which man ek-sists by dwelling."²⁴ The *logos* of Western thought invites the isolating nomination of classes, concepts, categories and equivalences. We do not have a language up to the task of describing and bringing into view ecological relationality. Yet it is also language as we know and use it that ushers in the possibility of a more relational perspective. Relationality can be understood as a habit of thinking that in Heidegger's words steps back "from the thinking that represents — that is, explains — to the thinking that responds and recalls."²⁵

Language is both our means of making sense and making the world sensible. It brings things to being, literally it *says* being. Heidegger writes, "naming does not hand out titles, it does not apply terms, but it calls into the word...In the naming the things are called into their thinging. Thinging, they unfold world."²⁶ Naming bids thing and world to come, but they do not subsist alongside one another, they penetrate each other. From this perspective language is already relational — there is a continuity between thought, interpretation and 'what is' that transcends the apparently different stuff of interpretation and world. Relationality hears interdependence in naming.²⁷

²³ Heidegger, "On the Essence of Truth" 147.

²⁴ "But man is not only a living creature who possesses language along with other capacities. Rather, language is the house of Being in which man ek-sists by dwelling, in that he belongs to the truth of Being, guarding it." Martin Heidegger, "Letter on Humanism," trans. Frank A. Capuzzi and J. Glenn Gray, *Basic Writings*, ed. David Farrell Krell (London: Routledge, 1993) 237.

²⁵ Heidegger, "The Thing" 181.

²⁶ Heidegger, "Language", *Poetry, Language, Thought* 198-199.

²⁷ Arne Naess explains relationality in terms of an interdependence or mutual affectivity, saying that organisms are knots in a field of intrinsic relations. An intrinsic relation between two things A and B is such that the relation belongs to the definition of both A and B. Without the relation, A and B are no longer the same things. Naess, *Ecology Community and Lifestyle*, trans and ed. by David Rothberg, (Cambridge: Cambridge University Press 1989) 28.

Language is not simply equipment or a mechanism of communication, but rather a medium in which things occur. It is *environ-mental*: of the world as much as it is of thought. Heidegger writes, “the two traverse a middle. In it, they are at one”.²⁸ Yet there is also separation and difference. For example the *copula* ‘is’ that links the subject with the predicate of a sentence, can be understood as a ‘threshold’ that undoes discrete concepts (which can never arrive as self explanatory) as much as a means of establishing equivalence: “The threshold is the ground-beam that bears the doorway as a whole. It sustains the middle in which the two, the outside and the inside, penetrate each other. The threshold bears the between.”²⁹

Language carries out the intimacy and unity of world and thing.³⁰ The word, says Heidegger, is not a distinction established between objects only by our ‘relative’ representations, nor does it prepare for this. “The difference for world and thing *disclosingly appropriates* things into bearing a world; it *disclosingly appropriates* world into the granting of things.”³¹

To grasp being-in-relationship, Heidegger shows that one must listen to what language offers at its limit, rather than search for the explicit presence of ‘essences’ in it. We do not ‘hear’, for example, individual words, but the *intention* of what is said.

This is akin to the hermeneutic phenomenological approach to ‘what is’. Our discovery of the world is always in the midst of the world and of our situation in it. Human being is ‘world-forming’ and “*intrinsically a peculiar transposedness into the encompassing contextual ring of living beings.*”³² We are always already thrown in a condition of relationality. We are in relation to inanimate and animate things; people, events, environments.

²⁸ Heidegger, “Language” 202.

²⁹ Heidegger, “Language” 204.

³⁰ Heidegger, “Language” 202.

³¹ Heidegger, “Language” 202-203.

³² Heidegger, *The Fundamental Concepts of Metaphysics* 278.

Many of us will witness the coming into language of our children and, through them, glimpse the force of interpretation overcoming the material constraints we take for granted. For Merleau-Ponty, the child's learning of language is not the acquisition of a coherent system, but a kind of *habitation*, a learning of a structure of conduct.³³ The child responds to our intentional naming of the world. Her vision travels along our endless pointing out, forming a collage that gathers discrete signs ("that is the *moon*") into odd amalgams of thing and intent ("the moon is following us home!"). The unfolding of the child's world is so forcefully a matter of interpretation that teaching language often feels more like an undoing, or prying apart and reorganisation, than a process of accumulation. The world is intentionally attached to the child; she is spread out or scattered amongst environments and recognises herself in everything.³⁴ For Merleau-Ponty, children have a "plasticity of vision".³⁵ The word is never a mere sign, sticking to its terrain of mind or page; the word inhabits things and is an expression too of the thingliness of the body, a gesture of its engagement and shared nature.

The significance of interpretation in the phenomenological approach ushers in the possibility of a changed view of the intrinsic relationships between things, a change in the horizon of our pre-understandings. This is not conceived as a linear passage from a state of seeing objects to another of 'seeing' relations. Rather, it is a concern of design: the production of signs of difference that transforms language and being. Language is an artificial element; it is something made and continually remade, and enfolds the remaking of perception. A change in our perception of relations is critically important for the sustainability of our world-making.

³³ Maurice Merleau-Ponty, "The Child's Relations with Others", trans. William Cobb, *The Primacy of Perception*, ed. James M. Edie (Evanston: Northwestern University Press, 2000) 99. These insights also depend on Wittgenstein who in his *Philosophical Investigations* teaches us that learning language is also an initiation into a way of life.

³⁴ "The child's person, says Wallon, is in a way scattered through all the images his action gives rise to, and it is because of this that he is apt to recognise himself in everything." Merleau-Ponty, "The Child's Relations with Others" 150.

³⁵ Merleau-Ponty, "The Child's Relations with Others" 150.

MERLEAU-PONTY AND THE GROUNDED METAPHYSICS OF (IN)VISIBILITY

There is a sort of madness in vision such that with it I go unto the world itself, and yet at the same time the parts of that world evidently do not coexist without me (the table in itself has nothing to do with the bed a yard away); the world is the vision of the world and could not be anything else. (Maurice Merleau-Ponty)³⁶

While relationality challenges the commonsense naming of things, it does not attempt to bypass the visible. It seeks, in positive terms, to consider the invisible as an invisible *of* the world. Merleau-Ponty's interpretations of the phenomenal world as visible *and* invisible — an idea that we henceforth refer to as the (in)visible — helps us to make the idea of relationality sensible. The manifest whole of the world picture — which presents “in the form of a whole” — is contested by this idea of a relational whole.³⁷

Merleau-Ponty argues that the visible, like language, is a system of differences, but these differences knit the world together rather than evacuate or cleave apart the perceiving body and its phenomenal situation. The visible is not just frontal, but all around us and in us — we do not *see* our interior organs but our visible body makes them sensible nonetheless. The invisible is not, contra Sartre, a void of negativity, the threatening unknown or imminent knowledge, but the *lining* of the visible, its interior limit. The visible *mediates* the invisible in being.³⁸

Merleau-Ponty's thought enables us to speak about an inside and an outside, actual

³⁶ Merleau-Ponty, *The Visible and the Invisible* 75.

³⁷ Heidegger, *The Fundamental Concepts of Metaphysics* 285.

³⁸ This recalls the closing paragraphs of Heidegger's “The Age of the World Picture”: “Everyday opinion sees in the shadow only the lack of light, if not light's complete denial. In truth, however, the shadow is a manifest, though impenetrable, testimony to the concealed emitting of light. In keeping with this concept of shadow, we experience the incalculable as that which, withdrawn from representation, is nevertheless manifest in whatever is, pointing to Being, which remains concealed.” (154).

delineations that are nonetheless inter-implicated: joined by the threshold of the between.

For Merleau-Ponty, our bodies are both sentient and sensible, both distinct from things and indelibly part of them, intertwined in the world. In *The Visible and the Invisible* a primordial sharing, empathy and mutuality of being is made present in an evocation of the common experience of touch. Merleau-Ponty says we achieve:

...a veritable touching of the touch, when my right hand touches my left hand while it is palpating the things, where the 'touching subject' passes over to the rank of the touched, descends into the things, such that the touch is formed in the midst of the world and as it were in the things.³⁹

Merleau-Ponty's grand metaphor, the "flesh of the world", grounds phenomenological investigation in our experience as embodied beings. "(E)very relation between me and Being, even vision, even speech, is a carnal relation — with the flesh of the world."⁴⁰ This metaphor is both specific and general, self-evident and flexible enough to take shape by way of description: it "is not matter, is not mind, is not substance..." but "an element of being, like water, earth, air, fire." Flesh is a "*general thing*, midway between the spatio-temporal individual and the idea, a sort of incarnate principle that brings a style of being wherever there is a fragment of being."⁴¹ It is the *mediational* character of flesh that Merleau-Ponty emphasises. The flesh points in two directions at once, it has a porous quality, it breathes or seeps as well as containing or separating.⁴²

The flesh of the world 'remembers' the ground that philosophy has forgotten or cast into doubt in favour of its own "floating realities".⁴³ It recognises

³⁹ Merleau-Ponty, *The Visible and the Invisible* 134.

⁴⁰ Merleau-Ponty, *The Visible and the Invisible* 83.

⁴¹ Merleau-Ponty, *The Visible and the Invisible* 139.

⁴² Jerry H. Gill, *Merleau-Ponty and Metaphor* (New Jersey and London: Humanities Press International, 1991) 60.

⁴³ Merleau-Ponty, *The Visible and the Invisible* 106.

that our bodies and their capacities fundamentally limit us. Like Heidegger's relational approach to existing language, things are always already what they are, but the ambition is to see things in a new way. The relationality of the flesh becomes the primal aspect of being-in-the-world, a "fundamental homogeneity"⁴⁴ and the "formative medium of object and subject".⁴⁵ The flesh brings to light the tacit promise of worldliness "that the things pass into us as well as we into the things."⁴⁶

This quality of the flesh is an evocative and enabling premise for taking Heidegger's thought of being-in-the-world in new directions. For David Michael Levin, who consistently remarks on the absence of the body in Heidegger's thought, the flesh deconstructs "in one devastating sweep, not only the dualism of subject and object, but also the egology and objectivity of the body — and indeed, the entire complex of metaphysical representations within which the human body has been held captive."⁴⁷ For Levin, the flesh evokes the importance of getting back in touch with an authentic, pre-cultural body of nature. However it is also a meditation on the nature of philosophical reflection, a grounding of the metaphysical character of scholarly thought. "Thought is a relationship with oneself and with the world as well as a relationship with the other; hence it is established in three dimensions at the same time."⁴⁸ It is not natural to understand thought as relational. Attempting to imagine relationality, to 'try on' the idea of discrete things as flesh-of-the-world, impinges usefully on our enculturation as Western subjects.

⁴⁴ Merleau-Ponty, *The Visible and the Invisible* 114.

⁴⁵ Merleau-Ponty, *The Visible and the Invisible* 147.

⁴⁶ Merleau-Ponty, *The Visible and the Invisible* 123.

⁴⁷ David Michael Levin, *The Body's Recollection of Being: Phenomenological Psychology and the Deconstruction of Nihilism* (London and Boston: Routledge & Kegan Paul, 1985) 65. For Levin, there is a pre-cultural body. Levin argues that it is only by getting back in touch with this primordial, ontologically attuned 'visionary being' that humanity can escape the nihilistic destiny of the modern world. This argument is made in *The Opening of Vision* and will be discussed in Part 2.

⁴⁸ Merleau-Ponty, *The Visible and the Invisible* 145.

Merleau-Ponty's grounded metaphysics allows for the intuitive experience of direct perception but at the same time denies the ambient indifference of the world implied, for example, by James Gibson's influential theory of ecological optics, in which the natural world gives up culture-free, invariant information to the perceiver.⁴⁹ From Merleau-Ponty's perspective, this scientific approach to perception serves to differentiate further man and world and to disregard the changes that the perceiving body also *produces* in the visible.⁵⁰

Science consistently undermines the reciprocity of the sentient and the sensible. For example, the face-off between biological beings and technology authenticates the dualism of subject and object. MIT's Laboratory for Human Machine Haptics have experimented with isolating monkey brain signals that precede various actions and then feeding those signals into a computer connected to a robotic arm. Theoretically, the robot will be able to send tactile sensations back to the source, providing the feedback required for the body to incorporate the prosthetic device. "What would happen", asks James Geary with a tone of dystopian mock-horror, "if the process was reversed? The signals that are routed from the monkey's brain to the computer to control the robotic arm could be sent back to the monkey — to control its behaviour?"⁵¹ Merleau-Ponty and Heidegger show us that these premises are all wrong; feedback is always in the intention of

⁴⁹ Gibson's influential theory of perception contends that we have direct and unmediated access to the world, which is independently meaningful. Physical worldly surfaces receive light and thus form in spite of our interest. The environments around us contain natural invariant information, which we perceive and act upon in order to survive, without recourse to interpretation. This he explained by the concept of 'affordances', what things "furnish, for good or ill, that is, what they afford the observer". Gibson quoted in Ian E. Gordon *Theories of Visual Perception* (Chichester: John Wiley & Sons, 1989) 159. Variation occurs because invariance is met by the different perceptual capabilities of beings, not by their cultural or interpretational differences. Gibson's affordance theory was brought to design discourse by Donald Norman in his interpretation of the design/user interface in *The Design of Everyday Things*.

⁵⁰ Merleau-Ponty, *The Visible and the Invisible* 134.

⁵¹ James Geary, excerpt from his book *The Body Electric* in Time magazine's special interactive technology issue 4 June, 2001: 49.

the thing.⁵² However aside from indicating the unfortunately hermetic nature of philosophy, such projects show the extent to which rationalist interpretations of subject and object are put to work in the world. The material extensions of technological design stand over the primordial reciprocity of things. They make up the world that relationality must learn to negotiate.

Technological incorporation in such examples takes place at the level of material changes, inserting things into the body and running circuits out of the body, rather than in the more abstract terms of intention and empathy. Yet even without these physical appendages, the body is already turned inside out, reshaped by image ecologies that have transformed the experience of embodiment in ways that challenge the openness of perception implied by Merleau-Ponty's flesh of the world.

The transformation of embodiment during pregnancy is an example. Contemporary pregnancy invites an ever-increasing array of image technologies able to measure, calculate, verify and describe the foetus in transparent detail, including a new three-dimensional, full-colour ultrasound screening. These images mark the experience of being pregnant and one is confronted by the learnt ease of the incorporation of such models, not least the ability of the image to assuage anxiety by describing the unseen in a radical symbolic suturing and restoration of 'natural' embodiment.⁵³ The image is attached to the body and becomes part of its burden. The impact of an image does not dwell *in the image*, but in the force of the relations it makes in the world.

The designed world that takes shape through such examples differs substantially to that which Merleau-Ponty inhabits in *The Visible and the Invisible*, which is infused by the primacy of naturalness, the organic quality of pregnancy,

⁵² For Heidegger, the objectifying tendency of science evident in such experiments annihilates the thingness of things. "The Thing" 170.

⁵³ This tendency is augmented by the growing popularity of 'whole body scanning', which is being used to pre-empt disease by visual means. One can imagine that when this procedure is normalised

and the ingenuousness of empathy. Levin says Merleau-Ponty does not recognise that the light “in conformity with which our vision takes place” is not a pure or natural light, but rather “a condition of visibility determined... by the world our vision has built for us.”⁵⁴ The ease of listening back into the body and forward into the world, to what Merleau-Ponty calls the “wild being”, is scrambled by the force of designed languages that now inhabit the world and us.

THE ‘FLESH’ OF COMMUNICATION

There is an ecology of bad ideas, just as there is an ecology of weeds. (Gregory Bateson)⁵⁵

For Merleau-Ponty, the medium of the flesh entails communication based on a primordial empathy and openness.⁵⁶ The generous relationality of the flesh of the world prepares the way for considering how design has obscured it. For this, Bateson’s ecology of ideas is extremely useful. Bateson’s thought elaborates the worlding of rationalist interpretations and acknowledges the power of design.

Bateson rejects the mindlessness of nature that is the interpretation of both modern physics and the tradition of metaphysics. For Bateson, ‘mind’ is immanent in pathways and messages *outside* the body.⁵⁷ His thesis of the “ecology of the mind” connects the ecological and the biological via communication.

Communication for Bateson concerns the practical consequences of ideas. It is conceived as a kind of path-finding by way of which restraints of redundancy and feedback steer choice.⁵⁸ In the cybernetic epistemology Bateson proposes, what

and our bodies rendered completely transparent, we will look back in horror to a time when we lived with the intolerable risk of our embodied ‘darkness’.

⁵⁴ Levin, *The Opening of Vision* 86.

⁵⁵ Gregory Bateson, *Steps to an Ecology of Mind* 492.

⁵⁶ “What is essential ... is to see that a perspective on the other is opened to me from the moment I define him and myself as ‘conducts’ at work in the world, as ways of ‘grasping’ the natural and cultural world surrounding us.” Merleau-Ponty, *The Primacy of Perception* 117.

⁵⁷ Bateson, *Steps to an Ecology of Mind* 339.

⁵⁸ This is a kind of path-finding. Communication for Bateson is the creation of restraints related to ‘feedback’ and restraints related to ‘redundancy’ and predictable patterns, which steer choice. Bateson, *Steps to an Ecology of Mind* 409-412.

‘thinks’ and thus communicates is the ‘man’ *plus* the product (thing or idea) *plus* the environment. As things come to embody and reproduce ideas, they communicate. Communication in these terms is a form of coordination or “structural coupling”, to borrow a term from Maturana and Varela, rather than a conscious operation generated at a certain point.⁵⁹

Ideas for Bateson are differences that make a difference. As human-generated information, ideas enter the world ecologically and cause things to happen. They become embodied, “hard-programmed” in environmental, material things, which confirm and perpetuate the habits of thought that produced them.⁶⁰ Bateson says “the universe is *informed* by the message; and the ‘form’ of which we are speaking is not in the message nor is it in the referent. It is a correspondence between message and referent.”⁶¹

The most problematic idea that has entered the world in this way is, for Bateson, the rationalist idea of transcendent mind. Where for Merleau-Ponty transcendental philosophy is a form of perceptual composure, in Bateson it has designs on the world. The rationalist idea itself constitutes a system, but one that lacks information about the communicational nature of systems and the immanence of mind. By forcing the linear structure of what Bateson calls “purposive consciousness” on the outer world, we become, he argues, blind to the cybernetic relationality of self and external world. Rational things — infrastructures, institutions, industrial processes, products — find their own momentum, but miss their own systemic effects, like poisons toxically flowing through the food-chain willed on, in increasingly powerful ways, by an immune industrial infrastructure.

⁵⁹ Maturana and Varela, *The Tree of Knowledge* 196.

⁶⁰ For Bateson habit is ‘hard-programmed’ in things. “The economy (of habit) consists in precisely *not* re-examining or rediscovering the premises of habit every time the habit is used.”...“a *habit* of not examining (these premises) is developed.” Bateson, *Steps to an Ecology of Mind* 274. As a consequence, “(t)rusted ideas...become available for immediate use without thoughtful inspection.” (509).

⁶¹ Bateson, *Steps to an Ecology of Mind* 414.

For Bateson it is the increasing incongruence of these systems and their “speaking at cross-purposes” that has led to “ecological pathology”.⁶² The flow of toxins *is a form of communication*: the ecological movement of toxins communicates pathology. More and more, the erroneous premises of our acculturation, our familiar, Western epistemological values *work* and propagate themselves, and in this way “basic errors of our thought become reinforced by thousands of cultural details.”⁶³

This notion of ecological communication removes ecology from the outer world and makes it an effect of design. This is highly suggestive of design’s need to take responsibility for the systemic effects it puts in play. The problem for Bateson is essentially one of the bias or attitude of the system, substantially augmented by the ‘set’ of technological systems that conform to the bias.⁶⁴ It is not enough, however, to simply know this. We are, he says, governed by epistemologies that *we know* to be wrong.⁶⁵ We live them. We have learnt to habitually *ignore* the relationality of the systems we depend upon. We need to *learn to learn* in Bateson’s terminology, learn to receive new signals in an adaptive way attuned to change rather than to the perpetuation of the status quo.⁶⁶ This is not learning as the revision of choices within an unchanged set of alternatives — as with the transfer of instrumental knowledges in representational sets. Rather, it is learning to change *the attitude of the system*, to revise the set from which the choice is to be made.⁶⁷

What must be learnt, according to Bateson, are things *as* relationships. Things — the scientist’s microscope, the root structure of a tree — are not usefully conceived as positive objects but rather as “pathways of communication”, real

⁶² Bateson, *Steps to an Ecology of Mind* 440.

⁶³ Bateson, *Steps to an Ecology of Mind* 4 93.

⁶⁴ Bateson, *Steps to an Ecology of Mind* 440.

⁶⁵ Bateson, *Steps to an Ecology of Mind* 493.

⁶⁶ “Learning denotes change and change denotes process which is itself subject to change.”

Bateson, *Steps to an Ecology of Mind* 283.

⁶⁷ Bateson, *Steps to an Ecology of Mind* 287.

only insofar as they are communicationally *effective*. This perspective reveals the systemic dependency of designed things that are, nonetheless, designed and produced as objects. The de-centred agency proposed by ontological design bears a significant relation to the ecology of mind, made explicit in the following description of immanent mind and its difference from the Western position on mind and its intent:

Consider a man felling a tree with an axe. Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke. This self-corrective (ie mental) process is brought about by a total system, tree-eyes-brain-muscles-axe-stroke-tree; and it is this total system that has the characteristics of immanent mind... But this is *not* how the average Occidental sees the event sequence of tree felling. He says, ‘I cut down the tree’ and he even believes that there is a delimited agent, the ‘self’, which performed a delimited ‘purposive’ action upon a delimited object... popular parlance includes *mind* in its utterance by invoking the personal pronoun, and then achieves a mixture of mentalism and physicalism by restricting mind within the man and reifying the tree. Finally the mind itself becomes reified by the notion that, since the ‘self’ acted upon the axe, which acted upon the tree, the ‘self’ must also be a ‘thing’.⁶⁸

The open circuitry of Bateson’s cybernetic model of immanent mind denaturalises the subjective deposit of rational decision-making. He acknowledges, however, the ubiquity of ‘average Occidental’ thinking, his own included. Nonetheless, this model foregrounds the transformative power of ideas as they conduct relationality, moulding both perception and form.

This supports the thesis that things have design agency: they communicate ontological modes by their designing. The thousands of cultural details that

⁶⁸ Bateson, *Steps to an Ecology of Mind* 317-318.

compose our naturalised artificial world need to be read, in this regard, non- thematically: as the relational products of a mind-set that is regenerated incrementally, in specific configurations.⁶⁹ From this perspective, designing takes on a new significance because it also incurs a responsibility to understand the transformative promise of design. This problematises the expedient of imagining and designing objects and opens the idea of design in practice to new avenues in the contemporary context of unsustainability.

An idea is a difference that generates differences. Let us consider an example. The idea of ‘dematerialisation’ can be understood as a product of the way means and ends are disassociated in actual technological operation, but also functions as a significant driver of the design of new technological devices and fashions desire by way of promotional images. In recent times it has also become an important idea for a materially prudent design practice that understands it is often the service or result delivered by a product rather than the material entity that consumers require.⁷⁰ Yet dematerialisation can also be seen as further disassociating human actions from their environmental conditions and consequences. It is easy to overlook the fact that a stand-alone, lightweight, wireless laptop relies on a heavy infrastructure of global materials, manufacture, distribution, image design and communication, base station transmitters and industrial waste collection. The product user learns to expect the promised capability of dematerialisation in a world that is anything but immaterial.⁷¹

⁶⁹ Clive Dilnot evokes design as a ‘configurative activity’ between objects of knowledge and literal objects: “suppose that (a) posited lack of relation between configured things and configurations of knowledge is not the case — suppose indeed that the relation between objects of knowledge and literal objects is internal and dynamic, a correlation (of sorts) not a lack of relation... there is no object of knowledge (certainly in the modern period) that is not grounded on a model of objecthood just as there is no production of literal objects which is not at the same time the production of knowledge.” Clive Dilnot, “To Change the Object Itself”, *Form/Work* 1. 2 (1998): 10.

⁷⁰ For an up-to-date critical review of developments in dematerialisation see the D/Mat design project at the EcoDesign Foundation website: www.edf.edu.au. Last Accessed December 15, 2004.

⁷¹ There is a tendency to downplay the fact that the new ‘post modern’, digital era is still largely reliant on mechanical and modern devices, processes and infrastructures. W. J. T Mitchell for example, states “Biocybernetic reproduction has replaced Walter Benjamin’s mechanical

For Manzini, who uses Bateson's critique to consider how design might lose its ecological blindness, we currently lack a design culture that is up to the task of negotiating the progressive 'artificiality' of our environments. We live in a technologically accelerated culture where both form and performance are liberated and technique and experience have parted company. With advances in engineering and materials science, "matter — which is always considered the solid, stable, inert counterpart of ideas — seems to have become pliable and capable of being moulded into any possible form."⁷² Due to the fluid, alchemical qualities of a material like plastic, which represents the *idealisation* of matter, whatever can be thought, can also be made.⁷³

reproduction as the fundamental technical determinant of our age. If mechanical reproducibility (photography, cinema, the automobile) dominated the era of modernism, biocybernetic reproduction (video, digital imaging, the Web) dominates the age known as 'postmodern'." W.J.T Mitchell, "Biocybernetic Reproduction". Lecture given at the Museum of Contemporary Art, August 15, 2001.

⁷²Manzini, "Prometheus of the Everyday" 221.

⁷³ See Ezio Manzini, *The Material of Invention* (Cambridge: MIT Press, 1986).

CHAPTER 3. THE ECOLOGY OF THE ARTIFICIAL

The work of Manzini is perhaps as close as the practice of industrial design comes to the critically reflective nature of cultural theory. Yet unlike much cultural theory, as we shall see, Manzini provides a design direction for these reflections. His analysis of the culture of materials, and in particular the design scenarios he puts forward, present a range of opportunities for exploring the potential of design to reorient the social imagination.¹

However even while his arguments illuminate the leading role of ideas in shaping the matter of the world, his understanding of the artificial still hangs on an idealist opposition informed by a conception of physical (and perhaps moral) limit.² For Manzini, the uncontrolled admittance of ideas into the material world has resulted in a retraction of real conditions and led to the loss of cultural significance. Just as in the physical environment the production of materiality has overstepped the environment's ability to absorb excess, Manzini says that we are now discovering that the 'semiosphere' — the environment of ideas, information, signs — is also limited and the production of meanings oversteps the ability of materiality to absorb them, resulting in the production of 'semiotic refuse'.³

The opposition of matter and idea persists in design theory. Victor Margolin, for example, holds that it is important to consider the natural and the artificial as distinct and non-interchangeable realms in order to limit the

¹ Manzini, "Prometheus of the Everyday" 237-38.

² In his critique of Susan Sontag, who argues that the photographic image contests the limits of meaning in *On Photography*, Andrew Ross writes that she must have in mind "some Judeo-Christian meaning of 'pollution', as applied to the moral equilibrium of the mind-body, and marked by the perversion of that balance." Andrew Ross, "The Ecology of Images", *The South Atlantic Quarterly* 91:1 (Duke University Press, 1992): 221.

³ Manzini, "Prometheus of the Everyday" 223.

ecological incursions of design as “the conception and planning of the artificial”.⁴ For many design theorists, the devaluation of design is considered to be inversely proportional to the rise of the image in design culture and an attendant failure to understand products as *material* entities. Designers are accused of falling into the superficial realm of “building, aiding and abetting the global image economy”.⁵ Design theorists Peter-Paul Verbeek and Petran Kokelkoren for example, say design has simply forgotten that “matter matters”: “When we strip all non-material aspects of products, something remains that is more than language, more than symbol, meaning, function, or icon. What remains is the thing *as thing*.”⁶

Manzini suggests that the way back to this matter of the thing is through the recovery of an ethic of limit in the physical and semiotic environments. We need, he says, new models to comprehend reality, models that allow for the irreducible complexity of ecological systems to show through. Drawing on Bateson, he proposes “to apply to the artificial environment the interpretative models that ecology has developed for the natural environment”.⁷ He envisages a “garden of objects” in which made things have “the variety, complexity, life and blend of beauty and utility of a garden, but at the same time, are a product of the real world, a world extensively and intensively artificial.”⁸ This new “ecology of the artificial” seeks to integrate themes of quantity and quality. In a strong sense, it lends to the artificial the conservative values that appear to be intrinsically embodied in the material world, and which ecology reminds us of.

The problem with this view is that it suggests that the ecology of the artificial is a degraded, second ecology that must learn from the distinct,

⁴ Following Herbert Simon, Victor Margolin holds that it is important to consider the natural and the artificial as distinct and non-interchangeable realms in order to limit the ecological incursions of design as “the conception and planning of the artificial.” (107) Margolin, *The Politics of the Artificial* 120.

⁵ Mau, *Lifestyle* 85.

⁶ Verbeek and Kockelkoren, “The Things that Matter.”

⁷ Manzini, “Prometheus of the Everyday” 228.

⁸ Manzini, “Prometheus of the Everyday” 239.

primary ecology of nature.⁹ For Manzini, “the ecology of the artificial” is circumscribed by the dynamic equilibrium that is determined between artificial entities in this second world.¹⁰ Yet it is the artificial, as design, that governs our perceptions and thus experiences of the natural. I have explored thinkers who have shown us that ideas are formed in the heart of the world. For Merleau-Ponty ideas are embodied; for Bateson ideas communicate differences and for Heidegger, ideas structure worlds. All of this struggles with a history that thinks of things as pure essences and entities, and in discrete terms. The world cannot be stripped of its cultural cloaking; it cannot be exposed in itself. One might respond to Verbeek and Kokelkoren in this regard that yes, matter matters, but this is only insofar as matter *means*.

Artificiality then, is not a property of something so much as an issue of perception and experience. The experienced ecological ‘misfit’ of design does not arise from the proliferation of the artificial and the limits of the biosphere, but is a product of design’s capacity to shape people’s experiences of limits.¹¹ The ‘water shortage’ is for example a shortage only in terms of understandings of requirements shaped by design. In spite of the growth of the artificial environment, our designed world is largely naturalised. The artificiality of designed things is not usually encountered as such in the environments where they have a natural force. Merleau-Ponty suggests as much when he says resemblance belongs to thought:

Why should we henceforth puzzle over reflections and mirrors? These unreal duplications are a class of things; they are real effects like a

⁹ Krippendorff uses the biological model of ecology to discuss relations between species of artefacts in “On the Essential Contexts of Artifacts or on the Proposition that ‘Design is Making Sense of Things’”, *The Idea of Design*, eds. Victor Margolin and Richard Buchanan (Cambridge: The MIT Press, 1995)156-184.

¹⁰ Manzini, “Prometheus of the Everyday” 229.

¹¹ The concept of ‘fit’ is an important one in design, from ergonomics to the interrelation of product form and environmental context. Christopher Alexander writes “...every design problem begins with an effort to achieve fitness between two entities: the form in question and its context. The form is the solution to the problem; the context defines the problem.” For Alexander, design is this ensemble. Christopher Alexander, *Notes on the Synthesis of Form* (London: Oxford University Press, 1964) 15.

ball's bouncing. If the reflection resembles the thing itself, it is because this reflection acts upon the eyes more or less as a thing would.¹²

Regardless of questions of quality, the transparency of things problematises both the identification of antecedent parameters such as environmental limits or experiential reductions in cultural significance. Artificiality is less some thing that is available to rein in or control than a means of acknowledging that the world breaks through only in designated ways. This is particularly significant in current conditions, as design, while itself artificial, increasingly diminishes the presence and character of artifice.

We need to learn to recognise design's artificiality. The limited intrusiveness of many modern designed things often comes with the price of amplified though unrecognised environmental effects. Learning to see design's artificiality opens the designed *as a consequence* of making. The artificial can be seen as a modest alienation of the system we are intimately wrapped up in. As Winograd and Flores suggest in relation to the experience of the breakdown, this also presents an opportunity for design innovation.

Industrial design has responded to the pressure to absorb ecology by making products with a range of environmental attributes — recycled content, reusable packaging, socially responsible sponsorship. These products suggest that they tread more lightly on the earth than their predecessors. However their form of modernisation does not challenge current perceptions and has not made a difference to the increasing flow of products. Their cultural significance is still governed by rationalist epistemologies. Niklas Luhmann suggests that ecological relationality needs to achieve more cultural resonance. He says “To the extent that technological intervention changes nature and problems result from this for society, *greater* rather than *less competence for intervention* has to be developed, but practiced according to criteria which *include reaction on itself*.”¹³ Designers need to develop this competence.

¹² Merleau-Ponty, *Primacy of Perception* 170.

¹³ Luhmann, *Ecological Communication* 14.

This brings us to the final part of this chapter, to the idea of the pro-duct and the incremental ethics it entails. Bateson’s relational mobilisation of matter and ideas — the ecology of mind — tells us that designed things, in addition to being measures of the designer’s understanding or misunderstanding about systemic complexity, *are themselves systemic*.

The systemic nature of the pro-duct can be initially explored by considering a range of prospective design strategies proposed by Manzini from the perspective of what they are themselves attempting to communicate rather than as instructions for environmental problem solving. These strategies aim to promote a design sensibility able to interpret the product not just in its own self-evident terms, but as a node intersected by streams of other products.¹⁴

Each strategy poses a different interpretation of the matter of the product:

1. Minimal matter. The elimination or minimisation of the physicality of a product, or dematerialising it by replacing it with a service that requires fewer material resources. In this scenario, the product disappears and spreads out, becomes a pure commodity, a “product-service”.¹⁵ However as suggested above, this strategy is easy to decontextualise from its material bases, as Manzini knows, and thus must also engender relationships far beyond the replacement of product function — as has been seen with “the myth of the paper-less office”, human beings are attached to material things for a range of cultural reasons beyond the function of those things.¹⁶
2. Eternal matter. Products conceived to last well beyond the human lifespan. In this scenario the product overcomes technological or aesthetic redundancy to demonstrate superior qualities of cultural resilience. The sign here takes a key design role. “It is necessary,”

¹⁴ Manzini stresses that innovation arises not in isolation but in society; that the aim of strategic design is “not a product or family of products, but a system of relations.” Manzini, “Toward a new product-service mix” 10.

¹⁵ Manzini explores this aspect of dematerialisation in Manzini, “Towards a new product-service mix”. His more recent work on ‘product-service systems’ is listed in a bibliography of his works in English, available from the EcoDesign Foundation website: www.edf.edu.au.

Manzini says, "... to construct stable and lasting identities that can be placed in a recognisable manner in the cultural space in which we are immersed."¹⁷ This demands a new aesthetics "that attributes worth to materials and products that in some way are able to embody vestiges of their earlier existences."¹⁸

3. Matter as medium. This third strategy involves the accommodation of the self-conscious ephemerality of forms by limited material quota — a strategy perhaps best suited to plastic.¹⁹ In this scenario the product concept achieves an internal flexibility, the design challenge becomes the material management of transformation through 'old for new' industrial processes like recycling, reuse and remanufacture. In these processes, a visible relation to the life-span of the product's material-medium must be maintained, through labels with explicit material management instructions for example.

On the one hand Manzini suggests that these are negotiation strategies after the discovery of limits. They are predominantly about making a better fit with reality and closing the gap between the limited perspective of 'purposive consciousness' and the ecological complexity that the Western culture of doing until now "did not want to see".²⁰ But he also suggests that the most specific task of the designer is to make visible new scenarios for quality, to bring them into being. These are cultural strategies that seek to change the *relationships* that happen between designers, products and product users. They are not about the 'discovery' of material limit and complexity, they are about creating new

¹⁶ See Abigail J. Sellen and Richard H.R. Harper, *The Myth of the Paperless Office* (Cambridge: MIT, 2002).

¹⁷ Manzini, "Prometheus of the Everyday" 223.

¹⁸ Manzini, "Prometheus of the Everyday" 236. The Dutch design group Eternally Yours, with whom Manzini is involved, focus on ways to increase the cultural durability of products by harnessing the identity mechanism of the image, and will be discussed further in Part 3.

¹⁹ Manzini, "The world of materials and the material world."

²⁰ Manzini, "Prometheus of the Everyday" 233.

experiences of limit and complexity.²¹ In the first case however, before another product is made, these experiences need to be opened *for the designer* for whom products are still overwhelmingly thought of as material objects that *have been* designed and delivered through mass production.

The systemic perspective fundamentally challenges the notion of what a product is or could be. The idea of design as form, process, and agency opens up the product as a conduit for cultural perpetuation or redirection: it “is not a closure, is not complete, but rather it is an opening that further facilitates life exchange.”²² The pro-duct is ‘what designs’ as distinct from ‘what is designed’. It understands that design has implications far beyond the immediate designing activity and therefore that design work at the incremental and formal level, is also design work at a cultural level.

The creation of new forms to desire and care for, about and with as well as to be cared for by, is undoubtedly an ethical imperative. The pro-duct does have a formal ambition: it is conceived as an exemplary embodiment of ethical designing, “...a sign, material process and cultural facilitation of change”.²³ Yet it needs to be acknowledged that we do not yet have the means to deliver such a form, to understand what it could or should be. We do not, as Luhmann suggests, have the competency for intervention required to make an informed, strategic difference. Ecodesign has predominantly decanted its insights into prefigured forms that reiterate the status quo of being with things. It has certainly not succeeded in the task of facilitating change. The *inscription* of care thus needs to be preceded by *description* of the careless, as a fundamental and elevated part of the design process.

In this, the visual dimension of the product becomes more than the mere rhetorical skin of something, the image that conceals materiality. It becomes the key directional force of relationships between products and users

²¹ “the discovery of limits no longer appears as the reduction of possibilities, but as the source for new ones.” Manzini, “Toward an Ecology of the Artificial Environment” unpublished manuscript (1991).

²² Fry, *Remakings* 176.

²³ Tony Fry, “Pro-duct” *EcoDesign Foundation Lexicon* (unpublished) 1996.

— the interface that facilitates understanding and action. The *eidōs* is the means to understanding the product's gathering of natural, artificial and hermeneutic elements.

One of the most defining images in Merleau-Ponty's work is of the joint, pivot or hinge.²⁴ He says:

...there are two ways in which we can consider the image — one, a reflective, analytic way according to which the image is nothing but an appearance in a visible world and has nothing to do with me; the other, a global and direct one, of the kind which we use in immediate life when we do not reflect and which gives us the image as something which *solicits* our belief.²⁵

The image is therefore never simply before us, it is “mysteriously inhabited by me; it is something of myself” and in its mode of revealing offers themes of possible activity for my own body.²⁶

This brings to presence the fundamental ambivalence of the image: it is representational and relational, visible and invisible. In what follows we try to preserve this ambivalence by selectively utilising the nominations of *image* and *sign*. The ‘image’ idealises something discrete, like an icon. The ‘sign’, on the other hand, is always indicative; a sign *for* someone or something. The sign indicates the joining of positions and the mutuality of communication. The image inclines toward content, the sign toward possible meaningful destinies.²⁷

²⁴ The hinge (*la brisure*) also figures in Derrida. For him it “marks the impossibility that a sign, the unity of a signifier and signified, be produced within the plenitude of a present and an absolute presence.” Derrida, *Of Grammatology* 69.

²⁵ Merleau-Ponty, *The Primacy of Perception* 132.

²⁶ Merleau-Ponty, *The Primacy of Perception* 132.

²⁷ Gregory Bateson's cybernetic approach to communication helps us understand the sign as pro-ductive and prefigurative. “It is, I believe, of prime importance to have a conceptual system which will force us to see the ‘message’ (eg the art object) as both itself internally patterned and itself a part of a larger patterned universe — the culture or some part of it.” Bateson, *Steps to an Ecology of Mind* 132.

The image can also be interpreted as *a sign* of the (in)visible relations it brings into being: the ‘smoke’ that speaks of an unseen ‘fire’.²⁸ When I seek to emphasise the intentional relationality of the image it becomes a ‘sign’, when I want to emphasise the force of representation, it is an ‘image’.

In summary, the meaning of the ‘ecology of the image’: it is a *naming*; a *hermeneutic strategy*; an *object of critique* and a *proposal*. It is a *naming* that brings into question the ‘naturalness’ of ecology and the ‘artificiality’ of the image. It is a *hermeneutic strategy* that seeks to make apparent the transformative agency of the image and the significance of perception and interpretation in enacting this agency. It is an *object of critique* in that the agency of the image is expressed in designed things that can be systematically observed and described. Finally, it is a *proposal* for a ‘new’ design recognition of the material significance of image ecologies.²⁹

The focus on the field of product design lends coherence to this diversity. Ontological design reveals that design is not a profession but a form of world-making. Thus all ‘professional’ and ‘private’ practices are implicitly design practices and thus sites for the remaking of image ecologies. However, the domain of product design, which converges on everyday life, ‘consumer culture’, aesthetics, architecture, engineering, sociology, media studies, philosophy to name but a few, is both sufficiently ‘material’ and ‘imaginary’ enough to provide a starting point and appropriate example for engaging with the ecology of the image. Products are an appropriately incremental focus for the broad and often epic concerns of sustainability, but they are also undeniably powerful cultural forces that shape life styles.

²⁸ Umberto Eco says “there is a sign every time a human group decides to use and to recognize something as the vehicle of something else.” Thus “smoke is only a sign of fire to the extent that fire is not actually perceived along with the smoke.” Umberto Eco, *A Theory of Semiotics* (Bloomington and London: Indiana University Press, 1976) 17. This strategy is the subject of Part 3.

²⁹ This is said in acknowledgement of the danger of evoking the ‘new’ without qualifying very carefully what this means. As Heidegger suggests in “The Age of the World Picture”, we are too comfortable with this practice and thus the proposal for new ways of thinking, new ways of being etc always carries within it a wrenching away from the ground of the ‘old’ as though this can be unproblematically effected. I try to remain conscious of this tendency when I evoke ‘new’ practices in this thesis. Heidegger, “The Age of the World Picture”132.

Lastly, a word on the position of this thesis, which as we said sits ‘between’ design and cultural theory. There is no correct or proper place to or from which to speak of the image, though the discourses of art and culture already afford the image some primacy and cultural significance, which undeniably provides a starting point. The approach of ontological design enables one to make significant relational connections that are not available in the aesthetic disciplines, which, in preserving the distinction between sign and world, mostly foreclose on the possibility of exploring the productivism of the image in the way that design allows. This is arguably even more difficult in the instrumental discourses of design, where the hegemony of materialism negates even the idea of interrogating the image (it is merely a transparent stand-in for reality). The assumption I am making is that design needs cultural theory and cultural theory needs design; design conceived as an ecological, that is, relational practice, offers a way to articulate them.

PART 2: THE VISION OF REPRESENTATION



Figure 2 Allan Tannenbaum, destroyed vehicles in a burning oil field. Northern Kuwait. 15 March 1991. *In the Eye of Desert Storm: photographers of the Gulf War* (New York: Harry N. Abrams: Professional Photography Division of Eastman Kodak Company, 1991) 33.

PART 2: THE VISION OF REPRESENTATION

Seeing is cultural seeing. (Ulrich Beck)¹

The TV is already on — we know that much. (Richard Dienst)²

The focus of this Part is the televisual as a form and force of ontological designing. I elaborate a theory of the ‘being’ of the image in light of key ideas on the operation of television developed by thinkers who have read representation both from within and outside the hermeneutic tradition. I argue that the vision of representation, as a pervasive vision of televisual and human perspective, is trained on the realisation of ideas but inherently lacks foresight and relational intuition. I offer a view of our age of the image and aesthetic eye in which relationality is disavowed by the relentless production of a particular form of sensory anaesthesia.

INTRODUCTION

SNAP SHOT: MUSHROOM CLOUD

The setting: the Nevada Test site, Nye County, southern Nevada anytime between January 1951 and October 1958. The cold war extended everywhere, including the South Pacific and Australia, but at that particular place hundreds of members of the US military famously gathered to watch the spectacle of ‘Able’, ‘Baker’, ‘Charlie’, ‘Dog’, ‘Easy’, ‘Sugar’ and the rest detonating in the atmosphere and sending up that fetish-image of military might, the mushroom cloud. Protected by nothing except eyeglasses — as though the eye were all that breached the distinction between sign and world — they watched these tests, feeling privileged, momentarily instructed on detonation to turn their backs on the “oven door opening on a Sunday roast”. Bodily proximity deservered, the shared air, earth and ambience structurally

¹ Beck, *Ecological Enlightenment* 14.

² Richard Dienst, “Sending Postcards in TV Land” *Deconstruction and the Visual Arts*, eds. Peter Brunette and David Wills (New York and Cambridge: Cambridge University Press, 1994) 296.

ignored by the worlding of the world picture. What were seen were not dynamic reactions, the forcing of matter into form rising fourteen kilometres high and the displacement of millions of tons of earth. Not the slow motion fall-out of fine radioactive particulate stretched out over the years, nor the release of ionising radiation into the future of plant, animal, atmosphere, earth, bone marrow, skin tissue and children yet to be born crippled and with heart problems. Not the sign of these propensities carried home (in)visibly to excited dinner-time conversations, but just the image, the form, a spectacle folding in on itself before us, the sign now of the paucity of our vision: the beautiful mushroom cloud.

Televsual images of war are a devastating sign of ecological anaesthesia. Among the most powerful of recent times are the aerial shots of the burning Kuwaiti oil wells that punctuated the war in the Persian Gulf for Western television audiences in 1991. The apocalyptic spectacle of these images — for me eternally scored by Mahler and Wagner³ — were a focal reality in a televsual war dominated by so-called Nintendo aesthetics, and burn still in our shared, cultural memory.⁴ More recent events in Iraq, willed by those past, retrace a terrain that in televsual terms we already well know. The Middle East is a zone of images forged in ignorance of the (in)visible ecological relations that bind us ‘here’ to that mental and historical ‘there’. In his “The Ecology of Images”, Andrew Ross suggests that images of the Gulf War speak a culturally particular military aesthetic — iconic, dramatic, biblical and remote — that is thematically related to other visions of ecological spoliation also involving, often enough, that elemental resource of the modern world: displaced oil. The ecological damage travelling into and out of the televsual image, while of its own catastrophic measure, is neither of the time nor the space of a television story.⁵ More than a decade later, the ongoing, (in)visible effects on environments and human lives of this event of war continues.⁶

³ I refer to Werner Herzog’s documentary film on the visual aftermath of the Gulf War *Lessons of Darkness (Lektionen in Finsternis)* (Canal, 1992).

⁴ ‘Nintendo aesthetics’ was a common term used to refer to the TV displays of laser-guided smart bombs and simulated points of view during the war. See for example Sygma photographers, *In the Eye of Desert Storm: photographers of the Gulf War*.

⁵ Andrew Ross says the stories of the ecological consequences of the Gulf War could not be told, “either because of Pentagon censorship or because they require more than a sound-bite

When we locate the burden of such problems of ecological ignorance with acts of war or even with the military-industrial-media complex as does Ross, we underplay the contribution of television as a way of seeing — *our* way of seeing — that is continually made and remade as normative. The ways in which ecological problems are articulated are themselves televisual, in a world that is increasingly structured in televisual terms. When we saw, and still see the Gulf images, we do not see these indelible cultural impressions as intensive though cursory glances of a more complex reality. Rather, we see, share and comprehend a singular, iconic perspective that powerfully informs future encounters via the linkage of mind, image and world. The televisual image in its intersection of so many frames of our existence, ‘here’, ‘there’, ‘now’, ‘then’, — is a *difference that makes a difference*.

Television (and here we focus on this particular electronic medium to exemplify the broader televisual operation) considered in the frame of ontological design, forces a particular kind of vision into being, a vision of representation. This vision, which has historically learnt to ignore relationality, is world-building: it has colonised our imaginations and our worlds.

The television that we see and know is a ubiquitous electro-technical object that produces for our selective choice explicitly iconic, coherent and meaningful audio-visual images. However, what we do not know about television, what we cannot hold before our eyes is its (in)visible relationality: its *ecology*. A history of the material, social and cultural impacts generated by the industries of the technological image (including the cinema) over the course of the last century would provide a rich starting point in considering this

analysis and a set of atrocity images.” Ross, “The Ecology of Images” 218. We will look at this essay in the context of a critique of the effect of cultural theory in Part 3.

⁶For an environmental assessment of these effects, see Green Cross International, *An Environmental Assessment of Kuwait, Seven Years After the Gulf War* (Geneva: Green Cross International, December 1998).

ecology.⁷ A comprehensive review of such a history would certainly produce a bill of consequences rivalling and perhaps even surpassing the impacts of the actual historical events, like wars, that the image-industries have often sought to communicate.⁸ However the ecological impacts of the image need to be enframed by the ecology of the image — its own ecological operation — that so deeply informs our perceptual capacities. We consider this ecology to be a key driver of the overfed styles of life we desire and build in the late modern world, which continue to thrive in spite of an apparent growth in the awareness of environmental impacts. This is not to reduce the significance of material analyses and we turn in this direction soon enough. But in light of the proposal that sustainability is a *cultural* problem, and one in our Western culture that is predominantly a *matter of perception*, the ecology of the image must be constituted, first, in these broader terms.

Television produces discrete, finished forms that while antithetical to the allopoietic changes of ecological relationality, nonetheless *make relations*.⁹

⁷ For a socio-industrial history in a Foucauldian frame see John Tagg, *The Burden of Representation* (London: Macmillan, 1988).

⁸ Such a history would involve an environmental impact assessment of the (in)visible toxic productions, greenhouse and landfill contributions of the photochemical industries and film production studios as well as the industries that support them not least, as Paul Virilio shows in his 1984 book *War and Cinema*, the military. Let us glimpse instead however, a less spectacular ‘moment’ in film history that brings together the complex relationality of the ecology of the image as I am seeking to bring it into view in this Part. In 1999 Danny Boyle’s ‘eco-aesthetic’ film *The Beach* (20th Century Fox) starring Leonardo DiCaprio, was shot at Maya Bay on the Thai Island of Phi Phi Lay. In order for the beach to appear ‘more tropical’ it was widened and flattened, and the ‘unsightly’ scrub bushes holding the sand together and preventing erosion were replaced with 60 alien, mature palms while other native plants were uprooted and kept in a nursery. Months later, the beach was deemed ruined by locals dependent on tourism revenue after attempts by the film company to ‘restore’ the complex tropical ecosystem as promised to its original state, failed. DiCaprio, a self-declared environmentalist (and yet as a celebrity also one of the “great wasterels” whom for Baudrillard embody the seductive potential for outrageous expenditure — see *The Consumer Society* [46]), reputedly remarked that “(f)rom what I see everything is okay. I have seen nothing that had been damaged in any way.” What is notable in this example is the *dimensional involvements* of the image: a press report brings into view the environmental impact of a film about the environment, starring an ‘environmentalist’ with an environmental awareness limited to what he can ‘see’, the impact of which emerged predominantly because the livelihood of so many was threatened by the aesthetic destruction of a tourist destination. John Vidal, “DiCaprio film-makers face storm over paradise lost” *The Guardian* 29 Oct., 1999: 1.

⁹ In contrast to the *intrarelativity* of autopoiesis (see footnote 38 in Part 1), allopoiesis refers to an *interrelational* process — the making of a material difference by one in another. These terms are explained in Maturana and Varela, *Autopoiesis and Cognition*.

I characterise this ecological operation of the televisual as a relationality of non-relations. Not least of the televisual's ontologically transformative non-relations is its normalisation of the iterability of experience in the "economy of the same."¹⁰ Overdetermining a relational vision open to the partiality and specificity of things, is a comparative vision that has learnt to verify. Levin characterises this vision as an *assertoric* gaze, a gaze that both watches out for and imposes what we know on what we see.¹¹ This assertive quality is not just limited to the sight of our seeing, but is an ontological predisposition toward things.

Televisual images communicate a sense of irrepressible abundance, proximity, permanence and vitality. They banish the shadows of the (in)visible in decisive editorial cuts we learn to see through, and demonstrate a blithe ignorance toward the specific context of their appearances and the differences these appearances make. The televisual is antithetical to the finitude and specificity of humans, things and environments, and as such works against the production of experiences of limit, such as advocated by Manzini.

We find Heidegger's work on representation provides the most useful and appropriate starting point for thinking the problem of the televisual image in these terms.¹² Heidegger situates representation in the world in a way that

¹⁰ The "demanding extractions of technics" subject the 'other' to "a stringent 'economy of the same' which operates according to the criterion of *commensurability* and accordingly strives to achieve 'the greatest possible use at the smallest expense.'" This is Samuel Weber's translation of a passage from Heidegger's "The Question Concerning Technology", which we find particularly illuminates the ecological operation of televisual forms in which exchange works to reduce every thing to symbolic equivalence. Weber, "Upsetting the Setup" 69.

¹¹ After Heidegger, Levin characterises an ontological difference between *aletheia* — truth as unconcealment — and truth as the correctness of representation, in terms of an *aletheic* and *assertoric* gaze. The assertoric gaze is the gaze of the 'will to power' of our age, an acquisitive, focussed, even predatory inclination toward what is encountered. The *aletheic* gaze is a more receptive gaze open to 'letting things be' (*Gelassenheit*). Levin, *The Opening of Vision* 432-40. Elsewhere Levin qualifies this difference in terms of a figure and ground distinction. David Michael Levin, "Decline and Fall: Ocularcentrism in Heidegger's Reading of the History of Metaphysics," *Modernity and the Hegemony of Vision*, ed. David Michael Levin (Berkeley and Los Angeles: University of California Press, 1993) 205. My argument diverges from Levin's with respect to the 'nature' of the vision we have and that we need to develop, as will become clear below.

¹² A range of perspectives on the relation of Heidegger's thought to the televisual are developed in Fry *RUATV?* Weber also usefully characterises the 'difference' of Heidegger's

enables understanding of how on the one hand, representation and its mode of truth has become culturally dominant and self-evident, and on the other, how representation obviates a relational dynamic.¹³ He develops a view of the embeddedness of representation in the instrumental technological things of late modernity, which in turn gather and disperse ways of being-in-the-world. Television brings into view for Heidegger the transformation of proximity that constitutes the organising principle of our lifeworlds.¹⁴ He says that the peak of the abolition “of every possible remoteness is reached by television, which will soon pervade and dominate the whole machinery of communication... Yet the frantic abolition of all distances brings no nearness; for nearness does not consist in shortness of distance.”¹⁵ Television does not, cannot bring on ‘nearness’ of understanding.

Heidegger’s thought is not without its own decisive closures, such as evidenced by his personal confrontation with the modern world.¹⁶ However the forethoughtful nature of his work on technology helps us to think through sustainability as a problem of perception in a growing televisual environment. This problem is complex and multi-dimensional. It involves the production and sustainment of a way of seeing the world deprived of a sense for ecological relationality. It also involves the production of images of aesthetic recognition

thought on representation: it is ‘intensely practical’ rather than thematic. Samuel Weber, “Upsetting the Setup” 56.

¹³ Truth as correctness “emerges...entirely from the ‘natural’ way thinking and corresponds to it, it has lasted throughout the centuries and has long ago been hardened into something taken for granted.” Heidegger, *Basic Questions of Philosophy: Selected ‘Problems’ of ‘Logic’*, trans. Richard Rojcewicz and André Schuwer (Bloomington and Indianapolis: Indiana University Press, 1994) 15.

¹⁴ I use the term ‘lifeworld’ here in Don Ihde’s sense. This is developed from Edmund Husserl’s fundamental, (pre-cultural) version — the ‘lifeworld’ as the ‘only real world’ perceived and intuited by everyone. Ihde’s understanding is more relational and flexible, intertwining an intimate, sensory-bodily ‘micro-perception’ with a more broadly cultural hermeneutic ‘macro-perception’. Our ‘lifeworld’, then, is a way of seeing and acting that is always both intimate and more broadly cultural and because of this intertwining is subject to cultural changes. Ihde, *Technology and the Lifeworld* 28.

¹⁵ Martin Heidegger, “The Thing” 165

¹⁶ Michael E. Zimmerman shows that Heidegger was confronted by technology in relation to his experience of home and the ‘homeland’ in *Heidegger’s Confrontation with Modernity: Technology, Politics, and Art* (Bloomington and Indianapolis: Indiana University Press, 1990) 209-10. Fry discusses the contradiction between Heidegger’s “feeling of rootedness” and his dawning technological insights in Fry, *RUATV?* 32.

and desire in which ‘the environment’ appears as a fully realised and realisable *place*, and in which things happen in fully describable ways. Thus the environment in which we imagine, feel, plan, make, work and watch television is excluded from the televisual representation of ‘environment’.

The televisual image takes place with an assertiveness that has no understanding of the destructive and transformative nature of its own form of disclosure. Crucial to this assertiveness is an understanding of truth as the correct correspondence between a statement and a matter.¹⁷ Heidegger shows how this version of truth overcame ‘truth’ as unconcealment (*aletheia*)¹⁸: truth as a revealing dynamic in a particular situation that can neither be generalised nor represented.¹⁹ Yet it is clear that this overcoming did not take place once, at the birth of metaphysical thinking, but is rather a form of *work* that pertains at every moment and, in our modern age, requires a constant remaking. A sense for the ecological violence that this remaking entails has been relinquished by modern vision.

Heidegger’s story of representation’s arrival in the modern world takes place via an exposition of the Platonic-Aristotelean determination of truth as correctness. It is by way of Plato that Western thinking acquired “its decisive

¹⁷ ‘Truth as correctness’ is elaborated in Martin Heidegger, *Basic Questions of Philosophy* 8–68.

¹⁸ Heidegger indicates that both truth as unconcealment *and* the latent change in the essence of truth (as *aletheia* withdraws into its Roman translation, *veritas*) are present in this name. He therefore questioned the appropriateness of the usual translation of *aletheia* as truth because of the normativity of the senses of correspondence and ‘correctness’ in the term. He says “*aletheia*, unconcealment in the sense of the clearing may not be equated with truth. Rather, *aletheia*, unconcealment thought as clearing, first grants the possibility of truth.” Martin Heidegger, “The End of Philosophy and the Task of Thinking”, *Basic Writings* 446. As Levin notes however, the word *aletheia* itself comes to reflect Heidegger’s hermeneutical reading of the ancients, and so for us becomes a valid sign of ‘truth as unconcealment’. I will follow Levin here and take *aletheia* as ‘truth as unconcealment’. Levin, *The Opening of Vision* 420.

¹⁹ Heidegger’s translator, William Lovitt, says that many of Heidegger’s terms have a two-wayness that allows them to indicate at the same time Being and man: “Thus ‘presencing’ and ‘revealing’ speak simultaneously of a moving into presence or unconcealment and of one toward whom that movement takes place, while ‘concealing’ and ‘withdrawing’ tell of a movement away and remind of one who is being deprived of that which might be present or revealed.” William Lovitt, “Introduction” in Heidegger, *The Question Concerning Technology and Other Essays* xxii. Drawing out this ambiguity in Heidegger is also a special feature of Weber’s explicitly bi-lingual reading in *Mass Mediauras*, which we consider below.

stamp” — not as one-off imprint but a form and force of designing.²⁰ Thus Plato’s doctrine of truth is historically ‘pre-sent’.²¹ Heidegger’s elaboration does not simply gather the Greeks into the history of metaphysics. Rather, it enables us to sense Greek thinking as utterly remote yet relevant to the present age.²² His reading of Plato’s allegory of the cave allows us to understand that the verificationism that underlies the televisual proposal has been learnt. From Heidegger we learn to tune into the unsaid, to the thought that ‘rules in concealment’ and to speculate on how we might have once and could possibly again, see things differently.

We traverse this particular ‘set up’ to find assistance in our denaturalisation of television as 20th century hardware. The televisual is a design(ing) of vision. The relation between vision and world in the televisual environment is one of continual remaking and involvement, yet the “secretive goings-on” of televisual operation do away with the possibility of truth as unconcealment.²³ As Don Ihde indicates, the familiarity of our lifeworlds tends to conceal their complex technological texture and the need to look into them more closely and critically.²⁴ We want to consider the “sensible view” that the televisual realises in the everyday world.²⁵ The sensible view here relates to the

²⁰ Heidegger, *Basic Questions of Philosophy* 45.

²¹ Heidegger says Plato’s doctrine “... is historically ‘present’...as...the ever-advancing world history of the planet in this most modern of times.” Heidegger, “Plato’s Doctrine of Truth” 181. In “Sending: On Representation” Derrida discusses the implications of Plato’s ‘pre-sent’; the destining of representation’s reign without Plato’s thought itself being subject to it. Derrida makes way for re-reading the well-trodden ground of the metaphysical lineage in saying that this proposal requires an other history of being “no longer regulated or centred on representation.” “Sending: On Representation” 120.

²² “The fact that the real has been showing itself in the light of Ideas ever since the time of Plato, Plato did not bring about. The thinker only responded to what addressed itself to him.” Heidegger, “The Question Concerning Technology” 18.

²³ Weber, “Upsetting the Setup” 73.

²⁴ The ‘technological texture’ of our lifeworld is not simply available as such. Don Ihde states that “simply because of its familiarity, we may overlook both the need for and the results to be obtained by a critical reflection upon our lives within this technologically textured ecosystem — perhaps better termed a *technosystem*.” Ihde, *Technology and the Lifeworld* 1–3.

²⁵ The common call to be ‘sensible’ in relation to television (particularly in relation to the viewing habits of children) mostly revolves around the assumption that television is a selectable object. Here, after Richard Dienst, I assume that the televisual cannot be turned off. I borrow the phrase ‘sensible view’ from George Myerson, who says after Beck that television’s new ecological storylines undermine the authority of the layperson’s perspective (and note for

empirical commonsense that we live and feel and intuitively trust, but is also a televisual sense that effects, in the words of Beck, an everyday “cultural blindness”: in relation to ecological problems, our senses fail us.²⁶ This Part asserts that there is a ‘we’ of ‘sensible viewers’ insofar as we all participate in and share this televisual environment.

Finally I take the televisual problematic to the culture of environmentalism, elaborating on our critique of conventional ecology in Part 1. Environmentalism, broadly indicated as the discourse of communities of environmental concern, sees itself as representative of the ecology of the real world and to a large extent does not recognise that its nature is a construct of technologically enframed human culture.²⁷ Increasingly it is intersected by and sensitive to the illuminating light of the televisual: the experiences environmentalism dreams of are those only able to be made present in televisual form. Environmentalism sees nature as profoundly aesthetic. This registers that there is something profoundly natural about experiencing things aesthetically. The dualism of nature and culture is perpetuated in the discourse

Beck the ‘layperson’ is in each of us). This fails to account for the extent to which the ‘sensible view’ is shaped by the televisual. Myerson, *Ecology and the End of Postmodernity*.

²⁶ Beck develops this argument in terms of threat of (in)visible ecological changes: “(t)he normal perceptual tools break down, as do all rules of conduct...Hazards bring about cultural blindness — while the eye still sees, the ear still hears — because our senses fail us only in respect of chemical and nuclear contamination.” Beck, *Ecological Politics in an Age of Risk* 50.

²⁷ Davison gives a comprehensive account of the induction of environmentalism into technological society. He says, “More than anything else, the combination of the imperative of technological development and the ideal of sustainability, with its consequent linking of efficiency with ecology, has led to the emptying of environmental discourses of their cultural content.” *Technology and the Contested Meanings of Sustainability* 38.

of environmentalism, in which the ideal environment takes precedence over a human world degraded by artifice. This core understanding raises fundamental questions about the efforts and direction of environmentalism and its capacity as a popular discourse to contribute to a culture of sustainability in a televisual world.

CHAPTER 4. THE RELATIONALITY OF REPRESENTATION

If I may put the matter dramatically, *ancestral man had entered his own head*, and he has been adapting ever since to what he finds there. (The Epic of Man)¹

FROM AN OTHER VISION

In the allegory of the cave, Heidegger notices that in addition to its ostensible illustration of the essence of education (*paideia*), a fundamental but unspoken change in Plato's thinking of the essence of truth is taking place. This is a change from a notion of truth as unconcealment — that which grants an opening for the known and unknown — to truth as a kind of double positive equation between the intellect (knowing) and the seen (the known): correctness.²

Unconcealment is a sense of truth with an intrinsically relational bearing, and is suggestive of a receptive vision wholly different to the object-driven intent of our inherited 'rational' vision.³ Reading through Plato's grades of light and location, Heidegger gives us a sense of the difference between these two modes of truth as ways of revealing *and* of their ambiguousness in

¹ Time/Life, *The Epic of Man* (New York: Time Life Books, 1961).

² Hans Blumenberg elaborates the relation between light and knowing in "Light as a Metaphor for Truth: At the Preliminary Stage of Philosophical Concept Formation", *Modernity and the Hegemony of Vision*, ed. David Michael Levin (Berkeley and Los Angeles: University of California Press, 1993) 30-62.

³ Levin, whose project concerns the (re)emergence of a receptive vision, says: "The ground will only give itself *as* ground to our perception only insofar as its giving of itself is appropriately received by perception, and that means its being, namely as grounding, must be respected, the ground must be allowed to presence *as* ground, that is, as different from (as deferred by, as being in deference to) the figures, the objects on which we focus. This calls for *Gelassenheit*, an attitude of letting-go and letting-be." Levin, "Decline and Fall", *Modernity and the Hegemony of Vision* 205.

Plato.⁴ The change in the essence of truth is not just intellectual, but one that involves a change in human conduct toward beings — both the gaze and its direction become more correct.⁵ Heidegger is careful to point out the remoteness of *aletheia* as it informs Plato's thought. Nevertheless, it implies that verificationism is learnt and that a different kind of attunement to the being of encountered and designed worlds may also be learnt.

Heidegger says the very image of the cave — both open within itself and hidden from the outside — indicates that the fundamental experience of *aletheia*, in which beings have charge of their own 'unhiddenness', shaped Greek thinking. Yet while the allegory rests on unconcealment, it is aimed in a new direction, toward the 'idea'. It is interested in unconcealment only insofar as it makes whatever appear "be accessible in its visible form (*eidos*)".⁶

In the passage between the cave and its outside, *aletheia* becomes both overdetermined by and attached to correctness. The story is set in place by the image of the sun — the highest culmination of the two positive orders: the good and the visible. The sun is the image of the ultimate 'idea'; it is that which lets all things appear. By way of this image, truth enters a metaphysical realm of supra-sensuousness where it ultimately finds a theological afterlife.⁷ In the blinding positivity of the sun's shining, *aletheia* is stripped of its relation to the hidden, the concealed (*lethe*), the unknow(able) and the (in)visible.⁸

Even for Plato, people generally believe that they encounter things in the world directly. They do not realise that it is only in the light of 'ideas' (or the sun's shining) that the things of the world are enabled to come forth into their visible form (*eidos*) and show themselves. Thus in the allegory, the

⁴ Heidegger says Plato's doctrine manifests ambiguity "in the fact that whereas *aletheia* is what is named and discussed, it is *orthotes* (correctness) that is meant and that is posited as normative — all this is a single train of thought." Heidegger, "Plato's Doctrine of Truth" 177.

⁵ Heidegger, "Plato's Doctrine of Truth" 179.

⁶ Heidegger, "Plato's Doctrine of Truth" 172.

⁷ Heidegger, "Plato's Doctrine of Truth" 181.

⁸ Heidegger says that "When Plato says of the idea that she is the mistress that allows unhiddenness, he points to something unsaid, namely, that henceforth the essence of truth does not, as the essence of unhiddenness, unfold from its proper and essential fullness but rather shifts to the essence of the idea. The essence of truth gives up its fundamental trait of unhiddenness." Heidegger, "Plato's Doctrine of Truth" 176.

prisoners held captive within the cave from childhood believe that the shadows they see are true beings. When unshackled and turned toward the illuminating fire — the source of what they thought was true — they are blinded and seek to turn back to the shadows of their familiar reality.

Real freedom is made possible when the prisoner is taken outside the cave and into the true light of the sun, into the region of the ‘most unhidden’ where “the things themselves stand there in the blinding force and validity of their own visible form.”⁹ After an adjustment to this new light, these things are now immediately accessible to the prisoner. In the last stage of the story (the stage that Heidegger notes is most often overlooked), the enlightened prisoner descends back into the cave to liberate the others. However, back in the relative darkness of the cave, the liberated prisoner displays no evidence of his enlightenment, in fact his eyes are deemed ruined and he must succumb to the normative condition in the cave or, in pursuing the liberation of the other prisoners, risk death.

What is essential in the allegory for Heidegger is not so much the distinction between the environment of the cave and that inaugurated by the sun, but the movements of passage between them.¹⁰ The allegory is organised into a series of four different ‘sites of instruction’ articulated by the prisoner in which “(t)he things themselves offer their visible form in a certain way.”¹¹ The prisoner overcomes a lack of education by becoming accustomed to the light of truth as correctness: the passage from one site of instruction to another marks a process in which the gaze becomes more correct in relation to the sun. The gaze turns toward the good; “(t)he guiding thought is that the highest idea yokes together the act of knowing and what it knows”.¹² It is an orientation that “conforms itself to what is to be seen: the ‘visible form’ of the being.”¹³ A

⁹ Heidegger, “Plato's Doctrine of Truth” 169.

¹⁰ Heidegger, “Plato's Doctrine of Truth” 172.

¹¹ Heidegger, “Plato's Doctrine of Truth” 169.

¹² Heidegger, “Plato's Doctrine of Truth” 177.

¹³ Heidegger, “Plato's Doctrine of Truth” 177.

certain disposition toward things emerges as the ‘idea’ gains dominance over *aletheia* and truth becomes correctness within the propriety of the gaze:

With this transformation of the essence of truth there takes place at the same time a change of the locus of truth. As unhiddenness, truth is still a fundamental trait of beings themselves. But as the correctness of the ‘gaze’, it becomes a characteristic of human comportment toward beings.¹⁴

Thereafter, as Heidegger puts it in “The Age of the World Picture”, things no longer look at man, but man at them.¹⁵ The unhiddenness of things become relative to how they are seen and thus become a matter of mind.¹⁶ For something to become unhidden, it must be recognised, that is, it must be sighted in advance. It is impossible to see things that are not prefigured in this way: a house, a tree or a god are only able to be perceived as such because their ideas are already in mind.¹⁷

For Plato the essence of a thing, that which is most unhidden, is *what* a thing is. This ‘whatness’ refers to a thing’s ideal, super-sensuous essence rather than its material presence. The ‘idea’ is the eternal and constantly present essence of a thing revealed by the *eidos*.¹⁸ The things encountered in the world exemplify ‘ideas’, yet the essence of a being is for Plato deformed by its entanglement with reality, losing its purity as well as its universality. Things in the world change and degrade but ‘ideas’ — eternal and constant — do not.

¹⁴ Heidegger, “Plato’s Doctrine of Truth” 177.

¹⁵ Heidegger, “The Age of the World Picture” 131.

¹⁶ “Insofar as the access (to the unhidden) is necessarily carried out through ‘seeing’, unhiddenness is yoked into a ‘relation’ with seeing, it becomes ‘relative’ to seeing.” Heidegger, “Plato’s Doctrine of Truth” 173.

¹⁷ This is the reminder provided as to the presence of ‘ideas’ in things. Levin says that according to Plato, our souls encounter ideas before incarnation, thence forget them whilst also retaining the possibility of recollecting them in the encounter with the *eidos*. Levin, “Decline and Fall” 197.

¹⁸ “ ‘To see’ is in Greek *idein*; what is in sight, precisely as sighted, is *idea*. What is sighted is what the being is in advance and constantly. The ‘what it is’, the whatness, is the *idea*; and conversely, the ‘idea’ is the whatness, and the latter is the essence. More precisely, and more in the Greek vein, the *idea* is the look something offers, the aspect it has and, as it were, shows of itself, the *eidos*.” Heidegger, *Basic Questions of Philosophy* 56.

Heidegger shows that Plato's thought presses in the direction of a metaphysical idealism in correlating *eidos* and 'idea'.¹⁹ He says that in fact the coining of the word "metaphysics" is prefigured when Plato says "Thinking goes ... 'beyond' those things that are experienced in the form of mere shadows and images, and goes ... 'out toward' these things, namely, the 'ideas'."²⁰

Platonic idealism is a precursor of Immanuel Kant's transcendental idealism. For Kant, the phenomena of the world are secured by our representational faculties and conform to them. Kant lays out his theory of the necessary, *a priori* principles of experience, and distinguishes between *phenomena* we encounter and the things-in-themselves (*noumena*) that are part of the infinity of objects which are possible phenomena — not yet sensed — but nonetheless which can be thought without contradiction. Kant follows Plato's understanding of the idea, attributing to it an archetypal *a priori* value though with a practical, regulative power. He says:

It is not only in morals that human reason shows real causality. Ideas also are operative causes of actions or objects. Plato correctly sees clear proof of nature originating from ideas. Plants, animals, the ordered regularity of the world and presumably, therefore, of all nature, show clearly that ideas made it all possible... the philosopher's spiritual movement up from reflection on the physical world as a copy to the architectonic arrangement of it by purposes, i.e., by ideas, deserves attention and imitation.²¹

The thing encountered is the pure idea made sensible, no longer wrapped up mysteriously in itself but regulated by the conceptual framework of human sensibility. The power of this metaphysical thought was that it peeled away the

¹⁹ Blumenberg also shows that light is already metaphysical in Plato's myth. Blumenberg, "Light as a Metaphor for Truth" 30-62.

²⁰ Heidegger, "Plato's Doctrine of Truth" 180.

²¹ Immanuel Kant, *An Immanuel Kant Reader*, ed. and trans. Raymond B. Blakney (New York: Harper and Brothers, 1960) 74 –85.

unruly ‘in-itselfness’ of things and at the same time the thing-in-itself became an actual or potential known.²²

This access to things is now a naturalised capacity of the sciences. However the process by which the bearing of vision became more correct was not simply a matter of relinquishing truth as unconcealment. In Plato, the essential whatness of things is only available upon a painful and somewhat dangerous ontological adjustment toward correctness, as the learning prisoner finds.²³ Correctness is the result of a hard-won process. The work of learning is described in terms of the undoing of normative vision— for which beings are still self-emerging — and drawing out a vision oriented toward the correctness of representation, which prepares for things on the basis of their prefigured ideas:

Liberation ...begins as the continuous effort at accustoming one’s gaze to be fixed on the firm limits of things that stand fast in their visible form. Authentic liberation is the steadiness of being oriented toward that which appears in its visible form and which is the most unhidden in this appearing.²⁴

The learning of correctness, the learning to overcome hiddenness and to extinguish the unknown as unknown, requires continual effort, but also entails confusion, disorientation, struggle and violence:

(...)the unhidden must be torn away from a hiddenness; it must in a sense be stolen from hiddenness...the supremely unhidden must be wrested from a base and stubborn hiding, for this reason one’s

²² The foundations of transcendental idealism are established in the *Critique of Pure Reason* (1781 and 1787).

²³ Heidegger explains that the process of ontological (re)orientation in Plato’s understanding of *paideia* can be heard in the German word *Bildung*, prior to its meaning settling into ‘education’ in the late nineteenth century: “*Bildung* [formation] means two things. On the one hand formation means forming someone in the sense of impressing on him a character that unfolds. But at the same time this ‘forming’ of someone ‘forms’ (or impresses a character on) someone by antecedently taking measure in terms of some paradigmatic image, which for that reason is called the proto-type [*Vorbild*]. Thus at one and the same time ‘formation’ means impressing a character on someone and guiding someone by a paradigm.” Heidegger, “Plato’s Doctrine of Truth” 166.

²⁴ Heidegger, “Plato’s Doctrine of Truth” 170.

movement out of the cave into the open and into the light of day is a life-and-death struggle. Stage four of the ‘allegory’ ... (the return to the cave and the ensuing battle between the liberator and prisoners) ... gives us a special glimpse into how ‘privation’ — attaining the unhidden by wresting it away — belongs to the essence of truth.²⁵

For Heidegger, metaphysical thinking from Plato onward owes its primacy to this move. The idea, already metaphysical in Plato, directs all appearance and “the essence of truth as the correctness of both representation and assertion becomes normative for the whole of Western thinking.”²⁶ Ever since, says Heidegger, there has been a striving for truth both in the sense of the correctness of the gaze and the correctness of its direction.²⁷ Concurrently ‘what is’ became a matter of the human intellect “(w)hat takes place in each instance is a metaphysically determined revolving around the human being.”²⁸

The ascendancy of the *eidos* in Plato “is the presupposition, destined far in advance and long ruling indirectly in concealment, for the world’s having to become picture.”²⁹ Since the moment of Descartes and modern metaphysics, beings became the objects of a self-certain subject and, “what it is to be is for the first time defined as the objectiveness of representing, and truth is first defined as the certainty of representing.”³⁰ In our modern times, the idea must be recognised, that is, made present. In *Basic Questions of Philosophy* Heidegger puts it thus:

(...) the ‘idea’ is for us something *only* represented and imagined, a mere thought, and precisely not properly real. Therefore for us today ‘ideas’ are worthless if they are not realised.³¹

Even as we still ask about *what* something is, referring to its generic ‘idea’ and excluding its individual, here-and-now presence, being for us is what is present

²⁵ Heidegger, “Plato’s Doctrine of Truth” 171.

²⁶ Heidegger, “Plato’s Doctrine of Truth” 178.

²⁷ Heidegger, “Plato’s Doctrine of Truth” 179.

²⁸ Heidegger, “Plato’s Doctrine of Truth” 181.

²⁹ Heidegger, “The Age of the World Picture” 131.

³⁰ Heidegger, “The Age of the World Picture” 127.

at hand, what appears. The view here is of the modern world as a world in which constant presence — the imagination of the idea — is everywhere realised and made available. The constancy in idea has arrived in the modern world as image, as Heidegger explains, as:

(...) the counterpart to, and the result of, a particular apprehension and representation. The idea became a mere representation (percipere-perceptio-*idea*) and, at the same time, a generalisation from the particular (Descartes, nominalism).³²

This was made possible in the history of metaphysical thinking when idea became ‘thing’ (or rather, in light of Kant’s idealism, ‘object’) but a thing whose determination would be fated in relation to truth as correctness:

From the standpoint of the idea, appearing now takes on a new meaning. What appears — the phenomenon — is no longer *physis*, the emerging power, nor is it the self-manifestation of the appearance; no, appearing is now the emergence of the copy. And since the copy never equals the prototype, what appears is *mere* appearance, actually an illusion, a deficiency ... The truth of *physis*, *aletheia* as the unconcealment that is the essence of the emerging power, now becomes *homoiosis* and *mimesis*, assimilation and accommodation, orientation... it becomes a correctness of vision, of apprehension as representation.³³

But what does it mean that what appears is mere appearance, *actually an illusion*? How could the thinking that rests upon such contradiction be sustained? Because, Heidegger shows, the self-certainty upon which representation is based conceals ‘the common soil’ of its disarticulating structure. Representation opens up its subject-object division *in the world*. This way of thinking then historically opens out as a striving for correctness, becoming installed in and as worlding structures. The understanding of idealism in terms of a simplistic geometry between idea and real matter is

³¹ Heidegger, *Basic Questions of Philosophy* 63.

³² Heidegger, *Basic Questions of Philosophy* 62.

³³ Heidegger quoted in Levin, *Modernity and the Hegemony of Vision* 196

problematised by this explanation.³⁴ We are prepared to read what appears to be actual as the inscription of a learnt way of seeing and mode of valuing.

COMING INTO FOCUS: THE RELATIONALITY OF NON-RELATIONS

In a world dominated by the calculative impetus of modern science, the correctness of representation holds total sway over appearances. For Heidegger, the fundamentally decisive event of the modern age is that the world becomes “conceived and grasped” as picture.³⁵ The picture means “the structured image [*Gebild*] that is the creature of man’s producing which represents and sets before.”³⁶ This picture emerges from the trajectories of metaphysical thought in which all that is, is represented as object. However this picture is not simply a finished form establishing an ontological opposition between man and object. It is generative of a particular objectifying disposition toward things, a grasping, holding opposite and present to oneself of some thing: a “frontal ontology”.³⁷ This frontal ontology depends on a fundamental erasure and forgetting of a thing’s relationality, because relationality cannot be held present in this way.

Thus the world is *opened up* as picture. The world picture implies that all things can be brought together, set in place, spatially, temporally, conceptually synchronised into a panoptic dimensionality of objects. As Heidegger argues, every thing is already seen as it *a priori* fits with the picture — and this becomes both natural and self-evident. The scientific practice of decontextualising things and then recontextualising them as entities and properties of the world picture, bears no mark of artifice.

³⁴ Heidegger, *Basic Questions of Philosophy* 16-18.

³⁵ Heidegger, “The Age of the World Picture” 129.

³⁶ Lovitt informs us that *Gebild* is Heidegger’s own word. With the use of ‘structured’ it is assumed “Heidegger intends the force of the prefix *ge-*, which connotes a gathering, to be found in the word.” Heidegger, “The Age of the World Picture” 134.

³⁷ Levin discusses the frontal ontology in *The Opening of Vision* 119-20. Unlike Levin however, I do not follow the ontological reduction in which “the world in which we live is finally *reduced* to the ontology of the picture — the picture, that is, *for us*”. As signalled in Part 1, this reduction needs to be foregrounded as a matter of value rather than of substance. I address Levin’s reading of the image below.

This understanding of the picture as a disposition rather than a thing, allows us to consider the things we encounter as the most visible outgrowth of the “hidden ground” of representation.³⁸ The ‘Hidden ground’ can also be understood as infrastructure. Infrastructure is (in)visible — it is what essentially withdraws in order for any system to function, but it also emerges as the design or ‘ground-plan’ of the system.³⁹ Representation, Heidegger tells us, is now a going forth, from out of itself, into the sphere of its own design. It is an objectifying force “that goes forward and masters.”⁴⁰

The world picture opens a sphere in which material entities can move and resonate, but which at the same time absorbs their differential natures. Things in nature are thus subject to the gaze of correctness, stipulated in advance, already known:

That stipulating has to do with nothing less than the plan or projection of that which must henceforth, for the knowing of nature to be sought after, *be* nature: the self-contained system of motion of units of mass related spatio-temporally.⁴¹

Further, the fitting of things into this ground-plan of nature constitutes the conditions by which an event in nature even becomes visible.⁴² The key term by way of which Heidegger now communicates the projecting of correctness is *vorstellen* (representation), which in this context is used to suggest specifically “a setting-in-place-before”; an objectifying that brings things to stand as object.⁴³ This setting in place is not, however, a pinning down. It is crucial that things are enabled to move naturally, as self-revealing entities within the objectifying explanation.

Into the ground-plan of the world picture, one is now inclined to read Heidegger’s later explanation of the technological impetus, Enframing (*Ge-*

³⁸ Heidegger, *Basic Questions of Philosophy* 18.

³⁹ I explore the ontological designing of infrastructure in relation to the planning professions in “Designing the Ground: The Infrastructure of Productivism” *Form/Work* 1.1 (1997).

⁴⁰ Heidegger, “The Age of the World Picture” 150.

⁴¹ Heidegger, “The Age of the World Picture” 119.

⁴² Heidegger, “The Age of the World Picture” 119.

⁴³ This is explained by Lovitt in a note to “The Age of the World Picture” 120.

stell), which he introduces in “The Question Concerning Technology”(1955).⁴⁴ Enframing is the *mode of setting in place* of the modern world picture, linking for us here with the televisual operation.⁴⁵ It is technology’s mode of being, illuminating the force of framing up and rendering coherent and the broader, technological ‘patterning’ of modern life.⁴⁶

While there is very little ‘sending forth’ in the modern world that is not implicitly and now explicitly technological, technology here is not circumscribed by our commonsense understanding of technological things.⁴⁷ Technology is rather a striving for completion and decisively sets things in place (*gestellt*). It designates and mobilises all of man’s procedures and apparent freedoms. The insight of Enframing goes beyond technological structures to the relentless ‘wresting away’ of the dimensionality of being.⁴⁸ As Weber tells us, Heidegger places considerable emphasis on the strange mixture of movement and stasis that characterises Enframing — he emphasises “the goings-on of modern technics”.⁴⁹ Weber thus translates *Ge-stell* as ‘emplacement’ which, “understood not only as a static state of affairs but as a dynamic process, can serve not just to close down but at the same time to open

⁴⁴ Though not made explicit until this essay, Enframing is, as Heidegger’s translator Lovitt explains, foreshadowed in “The Age of the World Picture”: “In the planetary imperialism of technologically organised man, the subjectivism of man attains its acme, from which point it will descend to the level of organised uniformity and there firmly establish itself.” Heidegger, “The Age of the World Picture” 152.

⁴⁵ According to Levin, it is only by virtue of the way of looking at the world structured by Enframing, that television exists at all. Levin, *The Opening of Vision* 125.

⁴⁶ Albert Borgmann, who has problems with Heidegger’s technological thematic but nonetheless draws heavily on his work, speaks of technology’s *patterning* of reality. Borgmann’s work is discussed in relation to products in Part 4.

⁴⁷ Heidegger tells us “the essence of technology is by no means anything technological”. Heidegger, “The Question concerning Technology” 4. In his illuminating reading of this essay, Weber explains that the English translation of *Technik* with ‘technology’ is both too narrow in excluding the meanings *technique, craft, skill* and too theoretical in suggesting that the knowledge involved is a form of applied science, which Heidegger explicitly denies. *Technik* precedes science, not the other way around. Weber “Upsetting the Setup” 60.

⁴⁸ Heidegger says “Only when insight brings itself disclosingly to pass, only when the coming to presence of technology lights up as Enframing, do we discern how, in the ordering of the standing-reserve, the truth of Being remains denied as world... Only then do we notice that all mere willing, and doing in the mode of ordering steadfastly persists in injurious neglect.” Martin Heidegger, “The Turning”, *The Question Concerning Technology* 48.

⁴⁹ Weber, “Upsetting the Setup” 71.

up.”⁵⁰ This structural ambivalence is highly significant, for each individual product, in its striving for completion, is fundamentally subject to this dynamic process.

The certain, objective orientation, which is brought out in Enframed things is at the same time an impression *of* vision. Things are secured in their self-revealing as objects *of* human comprehension and yet this relation is suppressed: things are experienced *as* objective, as objectively true. Yet the figures (*gestalten*) of vision are not just the spatial things encountered, “but the whole characteristic form impressed on a being from which we read off what it is.” This impression is registered as the stamping together of *eidōs* and *Gestalt* that takes place *through our vision*.⁵¹

Enframing, as insight and explanation, underpins our conception of the televisual.⁵² In many ways it is an unforgiving and totalising interpretation; the world is made manifest in a way that is able to displace all other modes of revealing. Yet as it takes place through our vision, this ‘totality’ presents itself in multivalent ways. It is not fixed in place; the uniformity of the objective disposition flows into a relational multitude of operations and designed views. Enframing encompasses both the tendency to objectify — the perception that pulls into alignment man and world — *and* its products, the incremental instances of its presencing.⁵³

⁵⁰ Weber, “Upsetting the Setup” 72. Weber notes that the translation of *Ge-stell* with ‘Enframing’ “effaces the tension between the verb and noun that resounds in the German and that points to the strange, indeed uncanny, mixture of movement and stasis that distinguishes the goings-on of modern technics and upon which Heidegger places considerable emphasis. This tension resounds in the word proposed by Lacoue-Labarthe to render *Gestell*: *installation*. I would like to suggest another possibility, one that has the virtue of pointing to the lexical ‘root’ of *Gestell*, *stell*: *emplacement*.” In our context the shift to emplacement is unnecessary as the ‘movement and stasis’ it seeks to foreground is the subject of our discussion. Weber, “Upsetting the Setup” 71.

⁵¹ Heidegger, *The Basic Problems of Phenomenology*, trans. and intro. Albert Hofstadter (Bloomington and Indianapolis: Indiana University Press, 1988) 106.

⁵² This link is made in many of the essays in Fry, *RUATV?*.

⁵³ Levin articulates Enframing as a word to describe our epoch generally as well as the character of our vision. *The Opening of Vision* 365.

Things in the world therefore become present as stock ‘standing by’ for use by man: they become “standing-reserve” (*Bestand*).⁵⁴ In Heidegger’s example, technology sets-upon the energies of nature, extracting and objectifying products — coal, uranium, iron ore, seed, air and water. These things, objectively real, are consequently also fundamentally misunderstood. Earth, which Heidegger explains as the concealed sustainment of self-opening (*poiesis*), becomes uniform matter and things become fully apparent and calculable.⁵⁵ It is not so much a human *indifference* that Heidegger is pointing to here, but rather to the structuring of the process of *forgetting the openedness of beings*.⁵⁶ The consequence of this transformative dynamic, this technological world-picturing, is that the ground of the earth, the ground that in its incalculable self-opening “cannot be figured out”,⁵⁷ is forgotten in a manner that is both violent and unfelt.

In the sensible view, the unknown as unknown, as the unexplainable or unpredictable, is erased, locked out.⁵⁸ From our perspective of a world full of designed things that design, the ongoing burden and tearing pain of this forgetting, which we can connect here with Plato and the burden of learning, can be seen to be largely ‘taken care of’ in increments of technological design. It is resolutely locked away in products of technological invention and innovation, removing from the sphere of human experience the violence of the world becoming structured according to correctness and beings becoming structured according to functionality.⁵⁹

Heidegger provides us with a perspective on the normative production of correctness such that we can see that, in spite of our forgetfulness, we are *never free* of the ‘wresting away from hiddenness’ of the modern orientation.

⁵⁴ Enframing “gather man thither to order the self-revealing as standing reserve.” Heidegger “The Question Concerning Technology” 19.

⁵⁵ “The earth is the spontaneous forthcoming of that which is continually self-secluding and to that extent sheltering and concealing.” Heidegger, “The Origin of the Work of Art” 49.

⁵⁶ Heidegger, “On The Essence of Truth” 147.

⁵⁷ Levin, “Decline and Fall” 204.

⁵⁸ “Explanation” says Heidegger “is always twofold. It accounts for an unknown by means of a known, and at the same time it verifies that known by means of that unknown.” Heidegger, “The Age of the World Picture” 121.

The violent tearing pertains at every moment in the ordering of things according to anthropocentric values. The projection of the metaphysical ground, the fixed ground-plan of the world picture, is explained by Heidegger's translator in a footnote as *Grundriss*, coming from the verb *reissen* meaning to tear, to rend, to sketch, to design, and the noun *Riss*, which means tear, gap, outline. "Hence the noun *Grundriss*, first sketch, ground plan, design, connotes a fundamental sketching out that is an opening up as well."⁶⁰

This *Riss* is also discussed in "The Origin of The Work of Art" (1935-6). Here, Heidegger speaks of the *Riss* (rift/design) in terms of the structuring of a *work* as a conflict between lighting and concealing in the opposition of world and earth. This *Riss*, "the intimacy with which opponents belong to each other", is fixed in place and becomes manifest in the figure or *Gestalt*. Therein the tearing apart becomes a tearing *together* into a common outline, the aesthetic form or figure⁶¹:

The strife that is brought into the rift and thus set back into the earth and thus fixed in place is *figure, shape, Gestalt*. Createdness of the work means: truth's being fixed in place in the figure. Figure is the structure in whose shape the rift composes and submits itself. This composed rift is the fitting or joining of the shining of truth. What is here called figure, *Gestalt*, is always to be thought in terms of the particular placing (*Stellen*) and framing or framework (*Ge-stell*) as which the work occurs when it sets itself up and sets itself forth.⁶²

The *Riss* is "the dif-ference, the pain of the threshold that joins."⁶³

Pain can therefore be considered the "joining agent" of the designed artefact.⁶⁴ The designed thing is torn into the earth's matter and at the same

⁵⁹ Such products — telegenic products — will be explored in the last Part of this thesis.

⁶⁰ Heidegger, "The Age of the World Picture" 118.

⁶¹ Weber, "The Unravelling of Form", *Mass Mediauras* 26-7.

⁶² Heidegger, "The Origin of the Work of Art" 64.

⁶³ Albert Hofstadter here connects "The Origin of the Work of Art" to the later "Language" (1950) — which was discussed in Part 1 in the context of relationality — in his translator's introduction to *Poetry, Language, Thought* xiii.

⁶⁴ "Pain is the joining agent in the rendering that divides and gathers. Pain is the joining of the rift." Heidegger, "Language" 204.

time strives to surmount it by fixing its truth in the figure. The earth, as that which withdraws and sustains self-opening, continually ‘bears and juts’ into design’s new worlds, in its own time.⁶⁵ The designing implemented by representational thinking forgets this drama, concealing the fundamental negotiation of world and earth by design.

Yet this forgetting entails much work as Enframing is incapable of expecting the unexpected. In his reading of Heidegger, Weber portrays the work of Enframing in its mode of being a *concealing* revealing. In the dynamic process of Enframing, Weber argues, the places set in place can never be taken for granted and must continually be defended, established and (re)secured. Thus says Weber, “(i)f the institutionalisation of the subject/object relation — the matrix of representational thinking — is a result of the emplacement that goes on in and as modern technology, then those very same goings-on undermine the objectivity upon which the matrix depends.”⁶⁶

The uniformity that Enframing imposes is consistently unsecured by the relationality to which each placing is ineluctably subject. Enframing responds to this with a frenzy of securing that merely escalates the drama of revealing objects.⁶⁷ The consequence of the structural lack of responsiveness of Enframing, is that design plans *without consciousness of what is being planned* in an ecological sense.⁶⁸ We can conclude here that Enframing’s taking care of things, is not a caring *for* things:

Enframing sets itself above the thing, leaves it, as thing, unsafeguarded, truthless. In this way Enframing disguises the nearness of the world that nears in the thing. Enframing disguises even this, its disguising, just as

⁶⁵ “World and earth are essentially different from one another and yet are never separated. The world grounds itself on the earth, and earth juts through world.” Heidegger, “The Origin of the Work of Art” 49.

⁶⁶ Weber, “Upsetting the Setup” 73.

⁶⁷ “(T)he frenziedness of technology has entrenched itself everywhere.” Heidegger, “The Question Concerning Technology” 35.

⁶⁸ This reminds us of Jullien’s comments on the Western plan that fails to correspond to what actually happens. Planning is in this regard the productive projection of the objectivity of correctness. As we have briefly mentioned, design has a history of being considered as a planning activity.

the forgetting of something forgets itself and is drawn away in the wake of forgetful oblivion.⁶⁹

Enframing is neglectful of beings because it is structurally incapable of opening up to relationality, to what in Heidegger's terms is the 'being of beings in their being'. The "injurious neglect of the thing" under technology's rule is brought about by representation's blindness to relationality.⁷⁰ In other words, silently, (in)visibly, *things are abandoned in and to their objectivity*. Our environments, our lifeworlds, bear the consequences of these abandonments even as we continue to live rich, full and materially aspirational lives.

Things appear to continue as normal and in absolute conformity with the ways of being promoted by the televisual world picture. Enframing, erroneously confident, does not get torn apart but in fact appears in many respects to become but more capable of dealing with the disturbing complexity of relations. In this respect we cannot underestimate the overcoming of critical insight by the sensible view in which the power of Enframing 'rules in concealment'. The televisual image offers a key that unlocks appropriate ways of being in a televisual environment.

⁶⁹ Heidegger, "The Turning" 46.

⁷⁰ Heidegger, "The Turning" 45.

CHAPTER 5. SEEING A WAY OF SEEING

Power that functions is not perceived. (Ulrich Beck)¹

What is television, after Heidegger's insights? In spite of its cultural ubiquity, I agree with Fry and Weber that the nature of television is *not known* and is thus open to hypothesising.² In this chapter we bring together Heidegger's explanation of representation's worlding with a systems-theoretical perspective to frame the televisual operation. We want to foreground the importance of this operation for understanding the effective power of television and the ways in which it produces reality.

Television is a cultural form brought into being by a mode of thought that well preceded it. It secures a way of seeing that in turn sustains a system of communication. It is not however conceived here as "one great machine" lowered onto the world.³ Television is ecologically generative. As we explore its operation in what follows, television takes on a certain anthropomorphism. This is in order to highlight the ongoing directive agency of designed things. As Bateson's cybernetic epistemology reveals, what 'thinks' and thus communicates is the man *plus* the product (thing or idea) *plus* the environment.

¹ Ulrich Beck, *World Risk Society* (Cambridge and Oxford: Polity Press 1999) 96.

² Fry indicates the nascent status of knowledge about television as an ontological domain. See Fry, *A New Design Philosophy* 228 - 251. Weber makes a similar point as he contrasts the volume of literature on television to the minimal engagement with "the distinctive specificity of the medium." Weber, "Television: Set and Screen", *Mass Mediauras* 108.

³ This dystopian image of television is from Margaret Morse: "In the mall, not only can television screens be found in department stores and passages, but the mall as an architectural form has begun to sprout 'video walls'. On the freeway, we can soon anticipate the appearance of the virtual video screen or 'head up display' which will float in a driver's field of vision like a freeway sign. It seems that soon one will have to speak of one great machine." Morse "An

Tele-vision means ‘seeing at a distance’⁴ or *dis-stance*, to borrow Hubert Dreyfus’ translation of Heidegger’s *ent-fernung*. This means for Dreyfus “*the establishing and overcoming of distance*, that is, the opening up of a space in which things can be near and far...” Dreyfus indicates that Heidegger modifies the assertion that dis-stance means ‘making farness vanish’ in a marginal note: “nearness and *presence (Anwesenheit)*, not the magnitude of separation, is what is essential.”⁵ According to Fry the televisual “has to be seen in an ontological geography of dual unlinkable spaces, where distance is measured in terms of an *awareness of a felt distance* rather than the measured and thus quantified distance”.⁶ The relationship between viewer and screen draws together ‘there’ and ‘here’ or rather the ‘being-here’ of ‘there’. My emphasis is on this engaging presence and the experiences that emerge within the unplanned designed environment of the televisual.

Television’s imposing ongoingness, its ‘economy of the same’, presupposes and regenerates the temporality of representation. It assumes that its audiences can all experience the same thing in the same way at the same time and again. For Luhmann, the mass media are “behind the much debated characteristics of modern temporal structures, such as the dominance of the past/future schema, the uniformization of world time, acceleration, the extension of simultaneity to non-simultaneous events. They generate the time they presuppose, and society adapts itself accordingly.”⁷ What is brought ‘near’ to us in the televisual environment is the *closure* of things, the resolution of things into a particular kind of figure-ground distinction deprived of worldly location, resonance and sensibility. We are captivated, held and animated by a vision that is blind to its violent rendering. And yet we have never seen more — the televisual environment draws upon all of the trans-historical and trans-cultural resources it has at its disposal to make the world available as picture

Ontology of Everyday Distraction,” in *Logics of Television: essays in cultural criticism* Patricia Mellencamp (ed) (Bloomington: Indiana University Press, 1990) 212.

⁴ Discussed in Weber, “Television: Set and Screen” 113.

⁵ Dreyfus, *Being-in-the-world* 132.

⁶ My emphasis. Fry, *RUATV?* 35.

⁷ Luhmann, *The Reality of the Mass Media* 21.

and to bring more and more into view for aesthetic entertainment. The televisual environment *is* our environment — it is part of the environment we are fundamentally *involved* in. In this environment we don't just get a feeling for *what* things are but also *how*, *when* and *why* they are. By virtue of relationality, every thing is touched by the televisual in some way. We all, even those of us trained to read images and who are watching out for the differences the image makes, are also 'sensible viewers' engaging with an intensively and extensively designed world whose nature is increasingly televisual.⁸ Being televisual in this respect involves no human decision; it is the world we were born into.⁹

In the modern world in which all distances have been abolished, sensible viewers are as remote as ever from understanding the ecological relationality of things. Heidegger's statement that "all distances in time and space are shrinking" now has the ring of a familiar cultural observation, even a sales pitch; the momentum has reversed and become divested of its relation to the proximity of understanding.¹⁰

⁸ In the next Part I consider what the special skill of 'reading' images can bring to a more relationally oriented design practice.

⁹ Even if this world did not yet have television, it was a world in which the televisual was already implied. This is the point at which my argument departs from the bulk of sociological studies that seek to determine television's impact on behaviour and interpersonal relationships. The social learning experiments of Albert Bandura have been particularly influential in this regard. Bandura, a social psychologist at Stanford University, led several experiments in the early sixties to study the impact of models on the behaviour of children and adolescents. The most famous of these was 'the Bobo doll experiment' in which children were shown a film of a model punching an inflatable doll, a behaviour they imitated when given the same dolls soon after. Albert Bandura, Dorothea Ross and Sheila A. Ross "Transmission of Aggression through Imitation of Aggressive Models", *Journal of Abnormal and Social Psychology* 63 (1961): 575 - 582. More recently, several research projects led by Paediatrics Professor Tom Robinson, also at Stanford, found that decreased television watching is associated with less aggression, better health and better interpersonal communication between children. See for example Thomas N. Robinson et. al., "Effects of Reducing Children's Television and Video Game Use on Aggressive Behaviour: a Randomized Controlled Trial", *Archives of Pediatrics and Adolescent Medicine* 155.1 (2001): 17-23. The argument of ontological design does not dispute the role of televisual example, or the emotional and physical consequences of solitary, 'sedative consumption'. It does, however, refute the idea of non-mediated interpersonal relationships that such studies depend on to identify the difference television makes. The underlying assumption is that television is a discrete entity that can be removed from these relationships and that uniform judgements can be made about its influence. The issue of causal influence needs to be put into the situation of ecological transformation.

¹⁰ Heidegger, "The Thing" 165.

Instead of shrinking, distances in space and time are being frantically opened up by the unending potentiality of market-driven design; products are designed to impart the experience of increased safety, acceleration, comfort or style for example; they bring further ease to the psychology of disposability, or they build in an effort of self-assembly to provide a sense of personal achievement. We can also do any number of things that are ‘escapist’.¹¹ The total propinquity of things is now normalised to the extent that we need to consider the world we encounter as an object of knowledge in different ways.

Looking into the televisual environment, we cannot see how we have been deceived as to the true space and time of things. We cannot establish the extent to which farness has vanished, nor the nature of what has been lost in this vanishing. Following its ontological incorporation, the question concerning the *whatness* of the televisual — for example with regard to how it transforms the natural limitations of our embodied perception — is perhaps less important than the question of what we do with television and its projections. What matters is how we *live* our understanding of the televisual environment and how this understanding informs design practice.

THE ‘BEING’ OF THE IMAGE

The manifest discourse of the image depends on what Derrida calls the instituting question of Western philosophy: “what is...?”¹² When we ask “*what is an image?*” we are re-establishing the conditions of representation. If we no longer ask about the image in terms of this *whatness*, we undermine what holds it together as an idea. As Luhmann says in relation to the distinction idea/reality, we cannot give up one side of the distinction without relinquishing the distinction itself.¹³ However we do not encounter this *whatness* of the image— the image *as image* — in the televisual environment. By dint of the

¹¹ These examples are all contrary to the project of making time in the sense of promoting the conditions for sustainability, see Fry, *A New Design Philosophy*.

¹² Derrida, *Of Grammatology* 19.

¹³ Luhmann, *The Reality of the Mass Media* 124.

relationship that is entailed in watching, we are not *aware* of the objectivity of the image as we are already inside a relationship with it.¹⁴

Weber observes that “(w)hat television transmits is not so much *images*, as is almost always argued. It does not transmit *representations* but rather *the semblance of presentation as such*, understood as the power not just to see and to hear but *to place before us*.”¹⁵ We do not look at or even see television in the way we might look at or see a film. We *watch* it, and we only watch something, Weber argues, whose outcome is in doubt. So if we do not watch images as such, what is it we are watching? We are watching the vision of the other: the uncanny unfolding of a remote vision into which ‘distance’ and ‘separation’ have been transposed.¹⁶

Television operates on the assumption of the meaningful, apodictic clarity of its self-enclosed system of reference. It communicates worlds of things, people, opinions, situations, lifestyles, environments, catastrophes — all of which share an orientation toward self-certain fidelity. Derrida emphasises that representation is a *rendering* present, “a summoning as a power-of-bringing-back-to-presence”,¹⁷ which is, we contend, also always a bringing into presence *for the first time*. From this perspective, the ‘deprived object’ that draws near in the televisual environment institutes differences and opens directions that can never again be closed.

The televisual image reaches into our ontological domain with an assertive confidence that in a relational sense has no idea of where it is going or what it will mean beyond the horizon of its own form. Not an openness to or consciousness of the particular environment or situation it breaks into, but the opening of an objective assumption, an uncanny, one-way conversation

¹⁴ “When individuals look at media as text or as image, they are outside; when they experience the result within themselves, they are inside.” Luhmann, *The Reality of the Mass Media* 115.

¹⁵ Weber, “Television: Set and Screen” 117. Television’s reification of the senses is discussed in Fry, *RUATV?*. See for example Fry’s “Switchings” and Eamon D’Arcy’s “The Eye and the Projectile” which asserts “tele-visual technologies are relocating vision to a plane severed from the eye of the observer.” (104). Weber also discusses televisual *audition* in “Television: Set and Screen”.

¹⁶ Weber, “Television: Set and Screen” 122.

¹⁷ Derrida, “Sending: On Representation” 116.

blithely indifferent to the relational particularity of those co-present.¹⁸ Weber speaks of the set as a Trojan horse entering the fortress of the family home, but television lacks the quiet caution and planning that underlies this legendary strategy.¹⁹ Its concatenation of images flood the environment with unlinked positive statements that have no hope of controlling the impressions they make. Think of the indifferent, merciless bleating of a mobile phone as it extends and amplifies the environmental ignorance of the caller and, without any subtlety, completely reconfigures the receptive setting. The image makes real a form of independent communication, a communication that not only circumvents interaction amongst those co-present but effectively renders such interaction impossible for the media's own communications.²⁰ This is something that Baudrillard indicated as a key aspect of mass media in the early 70s. In his (premature) "Requiem for the Media" he says, "the mass media are anti-mediatory and intransitive. They fabricate non-communication." The media 'speak' in a way that "*excludes any response anywhere.*"²¹

Without the thought of design, the relation between this irresponsibility and what McLuhan evocatively calls the "indomitable tactile promptings of the TV image"²² remains inarticulate. Both Fry and Weber problematise the conduct of televisual communication by indicating that the screen that shows also filters and obscures.²³

¹⁸ An example of this blithe indifference: the Miss World competition that has in recent years moved to 'third world' countries (and in this regard is merely the latest in the continued symbolic and material dumping of Western refuse of desire) caused religious riots and 200 deaths in Nigeria after a press article suggested that the Prophet Mohammed would probably have picked one of the contestants as a wife. Unable to see the particular cultural and symbolic violence this situation, many of the contestants and the organisers said the riots had 'nothing to do' with the ostensibly harmless pageant, which in fact 'focused attention on the issue of women's rights'. Peter Fray "It's not about your body, it's how well you look" *The Sydney Morning Herald* December 7-8 (2002): 11.

¹⁹ Weber, "Television: Set and Screen" 122.

²⁰ Luhmann, *The Reality of the Mass Media* 15. On this point see also Myerson, who likens the 'independence' of mobile communication to 'one hand clapping'. George Myerson, *Heidegger, Habermas and the Mobile Phone* (Cambridge: Icon Books, 2001) 24.

²¹ Baudrillard, "Requiem for the Media", *For a Critique of the Political Economy of the Sign* 169-70.

²² McLuhan, *Understanding Media* 316.

²³ Fry describes televisual perception in terms of three screens that both filter and project: that of language, the designed image and that of the image as it is inscribed in memory. Fry, *A New*

In showing, the figurative light of the image reaches out of itself, imposes itself and calls for adaptation. This directive aspect of the televisual image can be thought as a form of script, an *eidetic* script (from *eidos*, the visible aspect of something but retaining a relation to the immaterial 'idea' in Plato's sense). The televisual 'script' *prepares a position for those looking at it*, as does a traffic light or the vanishing point in a Renaissance painting.²⁴ The designation of script is a useful way to signal the prefigurative power of images as they forge a consensual environment in which design is directed.²⁵

As a product of design with its own being, the script travels forward with an open intent, carrying a potent unpredictability with regard to how it might be taken up.²⁶ This idea bears some relation to Luhmann's exploration of the Kantian concept of *schemata*. Schemata are not images as such, which become concretely fixed at the moment of depiction, but are rather rules for accomplishing operations, rules that "structure memory but do not determine action."²⁷ Thus, says Luhmann:

(...) memory does not consist of a supply of images which one can look at again whenever necessary. Rather it is a question of forms which, in the ceaseless temporal flow of autopoiesis, enables recursions, retrospective reference to the familiar, and repetition of operations which actualize it."²⁸

Design Philosophy 239. Weber also describes three screens: that which is watched, the screening of editorial operation and that which stands between the viewer and the viewed and "covers the separation". Weber, "Television: Set and Screen" 123.

²⁴ Bruno Latour, "Where are the Missing Masses? The Sociology of a Few Mundane Artifacts" *Shaping Technology/Building Society* 236.

²⁵ This prefigurative power is particularly clear in the relation that Virilio has theorised between war and cinema. Ross draws out the collusive relations defining the military-industrial-media complex in "The Ecology of Images". The September 11 2001 attacks on America, which Baudrillard describes as a self-induced missive of televisual desire, can also be considered in this frame. See Baudrillard, *The Spirit of Terrorism*, trans. Chris Turner (New York: Verso, 2003).

²⁶ "'Script' refers to the special case where temporal successions are stereotyped (for example, the fact that we are supposed to buy a ticket before getting on a train)." Luhmann discusses the utility of the script in *The Reality of the Mass Media* 109-110.

²⁷ Luhmann, *The Reality of the Mass Media* 112.

²⁸ Luhmann, *The Reality of the Mass Media* 109.

This proposal removes the televisual image from the otherworldly domain of the mere re-presentation: the copy. Yet the particular operation of the image is characterised by its ability to bring on the real, to make relations, without unravelling its representational structure. The image is somehow able to remain outside reality.

Luhmann explains that the binary code (sign/world; artifice/reality) is not an issue of identity but becomes a foundation for operability.²⁹ Each 'function system' of society (that is, any system self-actualised by a specific and primary function, like that of communication for the media) works out what belongs to its system and what belongs to its environment. The binary code becomes the integrative factor of a system's autopoiesis whereby it is operationally closed but structurally open *at the same time*.³⁰ For Luhmann the difference opened up within the binary code unfolds the unity of self-reference as a *guiding difference*.³¹ This does not in any way limit the differences that the system can incorporate; in fact the system is 'steered' by the problems it encounters and solves for itself. Meaning is a function of this internal relationality of the code in that it accomplishes the eradication of difference.³² So television's 'economy of the same' sustains itself by transforming 'non-information' into 'information' without exposing itself to the paradox of this self-production.³³ Luhmann says that the mass media in this way creates "the conditions for further communication *which do not themselves have to be communicated in the process*."³⁴

Systems manage this 'coding' by way of the practice of 'second-order' observation, which provides a measure of self-reflective ability.³⁵ While the

²⁹ Luhmann calls this "operational constructivism". *The Reality of the Mass Media* 5.

³⁰ Luhmann, *The Reality of the Mass Media* 5. See also John Bednarz Jr's introduction to Luhmann, *Ecological Communication* xi.

³¹ Luhmann, *The Reality of the Mass Media* 17.

³² Fry explains this in the context of a discussion on functionalism in Fry, *A New Design Philosophy* 37.

³³ Luhmann, *Ecological Communication* 77.

³⁴ Luhmann, *The Reality of the Mass Media* 65.

³⁵ Second order observation is derived by Luhmann from the 'second-order cybernetics' of constructivist epistemology. Luhmann credits here the biologist Humberto Maturana and the cybernetic theory of Heinz von Foerster. Luhmann, *The Reality of the Mass Media* 117- 22.

perspective of any one system is limited by its own system-environment distinction, it can develop a kind of insight and the possibility of self-transformation by observing the self-observation of *other* systems. The observer can see the environmental horizon that another system has set up for itself as an *artificial* constraint and can thus potentially learn something about its own operations through this observation.³⁶ Luhmann stresses however that second-order observation does not reveal objective truths about the observed system. The observer is always subject to the conditional nature of his or her own position, shaped in part by the ‘resonance’ produced by other systems.³⁷ Luhmann shows that this is a complex problem of a system’s understanding of what are problems for it. A system is constrained by its own mode of truth and cannot simply *see* its operational bases as a *kind* of truth, as an interpretation with other possible outcomes.

For Luhmann the mass media are not but another system amongst many in society. The reality of the mass media hangs on this second-order observation.³⁸ In watching the effects of actions unfold, Luhmann proposes that the viewer is engaged in learning a conduct of observation:

The sequences of distinction... make a second difference in their world of imagination — the difference to the knowledge, capability and feelings of the viewers. The issue here is not what impression the text, the programme, the film makes on the individual viewer. And neither can the effect be grasped with the simple concept of analogy formation and imitation — as if one were trying out on oneself what one had read in a novel or seen in a film (...) One learns to observe observers, in particular looking to see how they react to situations, in other words, how they themselves observe.³⁹

³⁶ Luhmann, *Ecological Communication* 23 – 4.

³⁷ Luhmann, *Ecological Communication* 49. The ‘resonance’ between the systems of mass media and politics — consider the inaugural JFK-Nixon TV debate preceding the 1960 US election — is a good example.

³⁸ Luhmann, *The Reality of the Mass Media* 85.

³⁹ Luhmann, *The Reality of the Mass Media* 60.

By virtue of participation, by engagement and involvement with appearances, televisual images have an ontological implication; one learns to *use* the televisual material to observe oneself and others.⁴⁰ This televisual participation is never first initiated but always already going on:

(...) the mass media are not media in the sense of conveying information from those who know to those who do not know. They are media to the extent that they make available background knowledge and carry on writing it as a starting point for communication.⁴¹

The mass media have generated an apparently indifferent “background reality”⁴² for which there can be no *responsibility* and thus the viewer is naturally inducted into a vision that leaves “the illusion of a cognitively accessible reality untouched.”⁴³

According to Luhmann, the social reality of television depends precisely upon a *reduction* of its social role. While television assumes psychological involvement, it attributes to ‘social actors’ their own self-induced causality.⁴⁴ The mass media are not burdened by the task of sustaining memories; rather they are concerned only with “an ongoing discrimination between forgetting and remembering.”⁴⁵

The power of the televisual “shows itself and hides itself in the *way* in which everything presences.”⁴⁶ Television is a *Riss* that produces erasure, forgetting. And as it goes on, inducting the sensible view, it deeply problematises the possibility of self-reflection, for we share its memory. Sensible viewers live opinions about places and things we have seen on television — differences television has made — even while we can diminish

⁴⁰“Almost imperceptibly viewers come to understand themselves as observers of observers and to discover similar or perhaps different attitudes within themselves.” Luhmann, *Reality of the Mass Media* 59.

⁴¹ Luhmann, *The Reality of the Mass Media* 66.

⁴² Luhmann, *The Reality of the Mass Media* 65.

⁴³ Luhmann, *The Reality of the Mass Media* 92.

⁴⁴ Luhmann, *The Reality of the Mass Media* 72.

⁴⁵ Luhmann, *The Reality of the Mass Media* 37.

⁴⁶ Heidegger, “The Thing” 166.

the objective source of these insights as just television, only part of the picture and an edited and opportunistically oriented part, at that.

In its showing, filtering and obscuring, television brings to the fore the *reality* of ambivalence. For Weber “what is ostensibly ‘set in place’ as the television set is also and above all *a movement of displacement, of transmission.*”⁴⁷ In this analysis his earlier elaboration of Enframing is important, particularly the dynamic of *unsecuring*. But, Weber tells us, the decisive quality of television also comforts viewers because it powerfully *recuperates* this unsettling tendency: “The more the medium tends to unsettle, the more powerfully it presents itself as the antidote to the disorder to which it contributes.”⁴⁸ So what we watch out for in the televisual environment is the recuperation of order, an order that is both determined and constantly unravelled by television. Weber’s deconstruction suggests that as televisual certainty unfolds, human beings are correlatively alienated from the experience of uncertainty.

Avital Ronell captured this complex, ambivalent quality of televisual productivism in her analysis of the role of television in the events preceding the LA riots in the early 90s:

(...) television produces the very thing it withholds and erases. So there’s a simultaneous sense of it being on “play” and “erase” at the same time (...) So what does it mean when television produces the so-called event of racial violence? It means there’s closure, things are being taken care of, there’s suturing: there’s a kind of obsessive suturing of the incomprehensible.⁴⁹

⁴⁷ Weber, ““Television: Set and Screen” 125.

⁴⁸ Weber, “Television: Set and Screen” 126. Baudrillard very early on also notes this tendency when he says in *The System of Objects*; “Every advertising image is a key, a *legend*, and as such reduces the anxiety-provoking polysemy of the world.” Baudrillard, *The System of Objects*, trans. James Benedict, (London/New York: Verso, 1996) 177.

⁴⁹ “Interview with Avital Ronell” *Now Time* (1993):28. In this interview Ronell refers to the displacement of the Gulf War — which while being a televisual event, was never actually screened — onto the home front by the Rodney King event. This argument is also made in Ronell, “TraumaTV: Twelve Steps Beyond the Pleasure Principle”, *Finitude’s Score: Essays for the end of the Millennium* (Lincoln & London: University of Nebraska Press, 1994) 305 - 327.

The televisual both names and extinguishes the event, disallowing reflection and forethought with regard to the consequences of what is shown, outside the repeat performance. The metonymic operations of the televisual overwrite the specificities of the event.⁵⁰

The image erases the trace of relationality by way of recuperation and restoration. It stitches up the gap between the prefigurative memories of other such events and their ‘new’ appearance, doing away with uncertainty.⁵¹ We experience affirmation in the unfolding of television. Luhmann says “(e)ach programme *holds the promise* of another programme. It is never a matter of simply representing the world in any one given moment.”⁵² In structuring vision, memory and background reality — and this is perhaps why so many sociological studies assert that television watching is not characterised by alertness (as in watching out for something new) but rather by absorption and relaxation (recognition)⁵³ — the image *disappears* into presence.

If television can be assigned a responsibility it is perhaps this: to retain form, to literally ‘keep things together’ against the unsecuring that it exacerbates in making sensible viewers less and less capable of dealing with uncertainty. Television’s part in releasing us of the burden of the *Riss* in this regard is one of normalising and securing the view of ‘whatness’. At the same time this entails the wilful devaluation of a relational situation and perspective. We learn from television to ignore relationality, but this ignorance is not constituted in a turning away from reality toward the screen, but in an engagement with the reality of what presences.

⁵⁰ See Ronell, “TraumaTV”.

⁵¹ Luhmann, *The Reality of the Mass Media* 63.

⁵² My emphasis. Luhmann, *The Reality of the Mass Media* 11.

⁵³ A theme of research particularly relevant here is ‘mood management theory’. This theory asserts that people use television to regulate their moods, for example to reduce or dissipate anxiety and stress. The key research in this area is by Dolf Zillman and Jennings Bryant, for example: *Selective Exposure to Communication* (Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1985); *Perspectives on Media Effects*, ed. Bryant and Zillman (Hillsdale, New Jersey : L. Erlbaum Associates, 1986); “Entertainment as Media Effect”, *Media Effects: Advances in Theory and Research* (Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1994) 437-461. James Lull also discusses the anxiety reducing effects of absorbing television in *Inside Family Viewing: Ethnographic Research on Television's Audiences* (London: Routledge, 1990).

Given this complex picture of the being of the televisual image, how can we develop a form of observation that is capable of making a difference in and to the televisual environment, wherein observation itself has become objectified? Levin responds to this dilemma by presenting a very different form of insight that reserves an always already embodied ontological alternative to the everywhere televisual environment. Levin's argument exemplifies a humanist position that takes Heidegger's thought on technology in a direction that disputes the reality of the mass media and contrasts with our understanding of the naturalised artificial and the ontological design perspective.

INSIGHT INTO VISION

In *The Opening of Vision*, the second book of his trilogy diagnosing the potential of human self-development in response to what he calls our age of nihilism, Levin seeks to recover the "pre-ontological understanding" Heidegger turned from after *Being and Time*, by way of the gift of our embodiment.⁵⁴

As one of the few objects Levin gives us to look at in his text, television exemplifies the historical appropriation of our visionary being (that is, our 'pre-ontological visual capacity') under the rule of Enframing. Television is untruthful, for Levin, insofar as it "obscures our capacity for authentic existence, true subjectivity, being true to ourselves".⁵⁵ Yet as a manifestation of the supreme danger of Enframing, it also possesses a beneficent capacity in that "television is a vision capable of touching and moving its viewers."⁵⁶ By virtue of its predominance within our realm of vision, television has a capacity to show us something real — the social reality constituted in and by a filmed and broadcast event, the holding within a frame of an event of actual

⁵⁴ "(A)s I read him, Heidegger's conviction that he had no alternative (but to abandon the entire 'analytic of Dasein') derives from the fact that he did not appreciate the human body as an organ of Being; as the organismic bearer of a pre-ontological understanding; as the primal medium into which this pre-understanding of Being is always first inscribed." Levin, *The Opening of Vision* 43.

⁵⁵ Levin, *The Opening of Vision* 129.

⁵⁶ Levin, *The Opening of Vision* 122.

proximity. Out of the horror of television, the possibility of a disclosive event emerges:

(...) a disclosure of truth by reference to which we could perhaps understand more deeply, and more compellingly, the essential character of our time... it lets us see more clearly into the concealed essence of nihilism. Somehow, it is an event which opens our eyes to the abyss.⁵⁷

Levin suggests that by *looking into* television in this way we might catch a glimpse of the suffering in which we participate. The implication is that the televisual event can provide us with insight into the danger of Enframing, as it takes place through our own increasingly narcissistic 'tele-vision'. In "The Turning", Heidegger asks:

Will insight into that which is bring itself disclosingly to pass? Will we, as the ones caught sight of, be so brought home into the essential glance of Being that we will no longer elude it? (...) Will we correspond to that insight, through a looking that looks into the essence of technology and becomes aware of Being itself within it?⁵⁸

The supreme threat of Enframing lies in its autopoiesis, the destiny of which is the death of the future.⁵⁹ However, as it is an explanation of the conditions we now find ourselves in, Enframing also constitutes the sole space of redirection. Within Enframing, the danger that unfolds, the "saving power" as the possibility that can take root and set off in another direction, is also to be found.⁶⁰ Heidegger asks "How can this happen? Here and now and in little things, that we may foster the saving power in its increase. This includes holding always before our eyes the extreme danger."⁶¹

⁵⁷ Levin, *The Opening of Vision* 124.

⁵⁸ Heidegger, "The Turning" 49.

⁵⁹ See Fry on 'defuturing' in *A New Design Philosophy*.

⁶⁰ Heidegger, "The Question Concerning Technology" 26–28.

⁶¹ Heidegger, "The Question Concerning Technology" 33.

The possibility of holding before our eyes the extreme danger seems a task of almost perverse impossibility in our late modern world. As we have suggested, televisual operation does not call our attention to the specific realities it sets in place, but rather uses this material to affirm what we already know. Television as shared vision, takes on the role of securing our sense of place in simultaneity with the most abhorrent catastrophes imaginable. Television does not merely bear witness to natural or socio-cultural disasters, nor can it be reduced to this role. It engineers them: the horrors that television communicates are also horrors that television *designs*. We witness that which would not have happened in a world that would not have existed without television.⁶²

Thus we can see that the televisual suffering Levin wants the sensible viewer to experience does not prompt care as a way of being, but rather exists in its afterlife. Television does not promote careful, precautionary styles of life, it does not give us the ability to *understand* the plight of others beyond the ‘face of suffering’⁶³ encountered in charity advertisements; it does not give us anything with which to open the experience of suffering for ourselves even as it “call(s) attention to suffering and move(s) its distant viewers to a sympathetic response.”⁶⁴ What the televisual description of suffering does do is to generate an *immunity* toward living care-fully. Televisual care is engrossed in restoration, closure and ‘taking care of’ things.

In these terms it is undeniably a *struggle to see* the televisual event as anything but consequence-free, a point Ronell makes when she remarks upon the endless televisual production of “corpses that need not be mourned.”⁶⁵ The televisual image — such as that of the burning Kuwaiti oil wells against the

⁶² The September 11, 2001 attack on America was such an event. Its televisual nature resonates outward in a multiplicity of consequences, not least the manufactured invisibility of its cause and the need for counter-images of ‘justice’ in a war waged upon Iraq as a unified and unitary enemy. The complex nature of this event and the massive task of televisual restoration cannot, however, be given proper consideration here.

⁶³ Felicity Lawrence writes of the politically motivated lack of vision of the impact of the ‘war on terror’ in Afganistan. Felicity Lawrence, “Suffering that has no Face”, *Sydney Morning Herald*, October 13 - 14 (2001).

⁶⁴ Levin, *The Opening of Vision* 122.

apparent nothingness of the desert background — cannot but sustain the recuperative tendency of the image and memorialise objects for our vision. And as we have seen, in its securing of the objective view, television cuts us off from developing the ability to respond to the being of what we encounter other than in the terms television itself scripts. The ‘gift’ of television is the aestheticisation of vision and the recoverability of a world deprived of being.⁶⁶ Television gives us, in these terms, a very particular kind of environmental awareness, one that normalises the environment as a place outside, a place constituted in normative spatio-temporal terms and immune from our involvements. The danger we need to hold before our eyes cannot be held within a frame, because it is the ontological designing of the televisual.

This is not the insight that Levin’s receptive look is after. For Levin, the real point is to tune into our authentic, primordial being, to look *beyond* the image:

The ontology of the image produces human suffering. And it deepens this suffering by framing it in an image. We need to see beyond the image into the depth of the suffering.⁶⁷

Levin certainly does not expect to encounter the televisual in these depths.

In *The Opening of Vision*, Levin constructs a difference between an intuitive visionary openness — the pre-ontological visual capacity of human beings — and the figure-driven, curious, egocentric vision of every-day seeing, which has put us out of touch with our primordial being. Levin says we “*fall into* the structure, the pathological pattern... and we *lose contact* with the more open dimensionality of the existential field” that is, the ‘true’ ground of our experience.⁶⁸

For Levin, the harsh artificial light of the technological world — the historical manifestation of metaphysics — has suppressed the natural, ambient

⁶⁵ Avital Ronell, “TraumaTV” 308.

⁶⁶ This usage draws on Clive Dilnot’s exploration of design’s gift via the work of Elaine Scarry in Dilnot, “The Gift,” *The Idea of Design*, eds. Victor Margolin and Richard Buchanan (Cambridge: The MIT Press, 1995) 144 – 155.

⁶⁷ Levin, *The Opening of Vision* 151.

light. This is not the pure, natural light of the world that is found in Merleau-Ponty,⁶⁹ but a light *within* ourselves, an inner light shared with the world, which awakens our natural capacity for receptive, grounded vision.⁷⁰ This is a light enfolded in the darkness of the night, the night of the sleeping body when our visionary dreaming releases us from our ego-logical obsession with visibility:

Under the spell of the night, our vision goes *down* into the body; goes down within the individual, down into the collective unconscious, takes leave of the (consensually validated) world and returns for a while to the underworld, the realm of the dead, rejoins the experience of nature it shares with the animals, and enters into the world of the dreambody.⁷¹

In order to get to this more receptive capacity, we need to trust in our intuitive visionary ability and involuntary perceptions, glimpses of which are available everyday but which are concealed beneath the chronological layers of cultural artifice we have succumbed to in the modern world.⁷² Here Levin draws on Heidegger's discussion in "The Turning" of the disclosing event (*Ereignis*) as a moment of vision, a flashing glance, a look *of* the world in which Being

⁶⁸ Levin, *The Opening of Vision* 59.

⁶⁹ Levin finds in Merleau-Ponty "no recognition at all that the light in conformity with which our vision takes place is not a 'pure' light, nor a light entirely belonging to nature, but rather a condition of visibility determined in many ways by the world our vision has built for itself." Nonetheless, Levin implicitly posits a relation between primordial openness and a nature outside the rational vision we have inherited from metaphysics. Levin, *The Opening of Vision* 86 - 93.

⁷⁰ In the last book of his trilogy, Levin characterises his project in terms of an "attempt to recollect an experience with the ground — the 'ground' of our standing and walking, the 'ground' of our visual experience, the 'ground' of our hearing — by virtue of which we might be able to learn, to awaken within ourselves, an historically new relationship to the 'ground' that figures in the Question of Being." Levin, *The Listening Self: Personal Growth, Social Change and the Closure of Metaphysics* (London and New York: Routledge, 1989) 6.

⁷¹ Levin, *The Opening of Vision* 351-54.

⁷² See Levin's ontological schema in *The Opening of Vision* 47-49. Levin elaborates this intuitive capacity by drawing on Carl Jung's notion of the 'eternal child' which, hidden in the adult "...is always becoming, is never completed, and that calls for unceasing care, attention and fostering." This 'child' that "cries out for recognition and an opportunity to develop itself, is what Heidegger would call the 'authentic Self': that implicit dimension of our existence which is always and already enjoying a primordial attunement to Being-as-a-whole." Levin, *The Body's Recollection of Being* 6.

truthfully comes to presence.⁷³ The lightning flash offers a phenomenal vision of this truth as it amplifies the concealment of the night.⁷⁴ Such a flash is a “healing scission”, a moment in which we share a visual communion with the world.

The metaphors of healing, rejoining and making whole that suffuse Levin’s discourse hinge on the exemplary falseness of the image. He forgets that dreams are inflected with the light and ideas of the existing world, which include the televisual. The vision of representation, our adopted and normative vision, is also enfolded into Levin’s vision *without* presence as psychologically gathered memory, projection and desire.⁷⁵ In reference to photography as a manifestation of the technology of vision that occasions the televisual, Levin speaks of “a transcription of the lighting of Being as it inscribes itself into the flesh of the world.”⁷⁶ The *material* with which photography is made possible is ‘primordial light’. This light is shaped and directed into the photograph where the ‘play of light’ becomes fixed, and here it stops, closes up. Levin does not attribute to the object thus fixed any ontological agency, yet somehow, the image bears upon human beings. He says that technologies of vision within which the metaphysics of presence are at work, block “perception of otherness and difference.”⁷⁷

For Levin, these ontological effects are limited to certain human beings who become fused with images and thus lose their reflective capacity. In this fusion, pathological conditions emerge:

In the age of images, *esse est percipi*. This reduction of human being, and of Being as such, to its representedness, its being perceived, its being seen (...) links narcissistic epidemiology to the spread of nihilism. The narcissistic character lives out, in a mostly invisible

⁷³ Heidegger, “The Turning” 44-45.

⁷⁴ Levin, *The Opening of Vision* 355.

⁷⁵ Levin, *The Opening of Vision* 351.

⁷⁶ Levin, *The Opening of Vision* 122.

⁷⁷ Levin, *The Opening of Vision* 127.

suffering, the historical condition of being *nothing* but an image, *nothing* but what can be seen, *nothing* but what is visible.⁷⁸

The most extreme subjectivity under Enframing's rule is "a false, or sham subjectivity caught up in the production and consumption of images."⁷⁹ The narcissistic individual is stuck within a dialectic of an image-inflamed or deflated ego and suffers a reduction of their being.⁸⁰ We do not get a sense of what would makes some people extraordinarily narcissistic beyond a certain weakness to resist the temptations of the image. Nor, conversely, what protects others from the fall into images and the correlative emptying out of their humanity.⁸¹ For Levin the image affects a disorder of the *character* not of the culture.

He says, "...the world in which we live is finally *reduced* to the ontology of the picture."⁸² Our senses and capacities are caught up in an image and "...what dominates is what glitters, what shines: the image, the illusion, the sham, the surface."⁸³ This resonates with a morality that is itself deeply televisual: the deceptive copy is a counterpoint to the Christian democratic liberalism which not only shapes the nature of freedom but the moral individual in so many televisual scripts.⁸⁴ We make use of Heidegger in a different way: the world picture is the dimensional *bodying forth* of the world, not a reduction of the world.

The task Levin sets before us is one of the recollection of forgotten being, rather than of designing difference into being. Ultimately we need to turn away from the dehumanised environments that mirror our objectifying, assertoric gaze:

⁷⁸ Levin, *The Opening of Vision* 149.

⁷⁹ Levin, *The Opening of Vision* 120.

⁸⁰ "(W)e become nothing when the image is the measure of our being" Levin, *The Opening of Vision* 150.

⁸¹ Levin, *The Opening of Vision* 134.

⁸² Levin, *The Opening of Vision* 119.

⁸³ Levin, *The Opening of Vision* 151.

⁸⁴ As Luhmann notes the mass media offer freedom without any loss of reality — we are at liberty to participate or not. Luhmann, *The Reality of the Mass Media* 60.

If our experience with the night teaches us to see ourselves in the objects around us and catch sight of the sense in which these objects are mirrors of our own projections, mirrors of our character, and of the prevailing sensibility in which we all participate, the sight of their violence ... will perhaps turn us back upon ourselves, turn us into ourselves, to question the individual and collective 'self' whose vision ... brought forth such disturbing objects. But seeing all this could also *open* this 'self' to a different vision...⁸⁵

Yet we are ineluctably caught up in our engagement with the designed world. To accept that we are always already embodied and that we trust our embodied intuitions, is not to exclude the 'hand' of the artificial in shaping these intuitions. Any break with industrial modernity will always be a matter of the worlds we construct because our habits are not conscious and must be supported by designed things that care for us and embody an understanding of our tendency to forget.

When Heidegger was writing about technology, it was a different world. As we have seen, the ontological designing power of the televisual was strongly prefigured by the calculative impetus of the modern world in "The Age of the World Picture" and the structuring and organising power of technology (Enframing) in the "Question Concerning Technology". But the products, materials, events, images, environments and infrastructures of the televisually 'aware' world that now rise up to meet us, had not yet become historically manifest. In this respect, particularly from the perspective of ontological design (for which the material conditions of our environments are paramount to human conduct), Heidegger is speaking from a place somewhat outside our world. While his discourse reveals that he could sense the texture of this technologically designed reality, see it coming, and was forethoughtful with regard to its ontological significance, he does not bear witness to the

⁸⁵ Levin, *The Opening of Vision* 358.

world that his thought nonetheless helps us to understand. And Heidegger did not want to live in this coming world.⁸⁶

Many thinkers after Heidegger — particularly those inflected with an ecological consciousness — tend to refuse the full inscription of the technological in our being-in-the-world and to reserve pre-cultural enclaves for being ‘outside’ technology. This affirms an ontological opposition between the artificial and the natural and is underpinned by a failure to recognise the anthropocentrism of our constructions of the natural environment.⁸⁷ For Levin, this enclave is the self.

In the last part of *The Opening of Vision*, Levin takes us with him into a darkened hut, cutting himself off from light and interactions with the world for seven days and nights, in a Tibetan practice of self-discovery called ‘The Dark Retreat’. During this time Levin experiences the undoing of his ‘rational’ vision and the inner lightning of the opening of his visionary being. This is an undeniably fascinating account of an experience of an alienation of normative vision, but this turning in on the self could not provide the sort of glimpse that would make a difference to the worlds we now live in and must seek to sustain. The questions remain: how does this insight lead beyond the self? How do you sustain a different habit of vision? And how does this vision lead us to a better world, to the desire for a world of difference?

Levin offers an instructive and deeply-felt exploration of Heidegger’s insights into the destructive work of metaphysics. His conclusions — that the agent of change is the self — does not convince me. The primordial promise of an authentic ‘Self’ is not enough in the face of the increasingly

⁸⁶ Fry notes that “(a)lthough contradicted by his own feeling of rootedness, Heidegger started to grasp that modern technology (in which television is but one agency of lifeworld mediation and time/space ‘compression’), dissolves the ground upon which *there* exists a *place* of belonging, one that exists *here* as *home* — for us here and there have been replaced by everywhere and anywhere.” Fry *RUATV?* 32. Heidegger’s attachment to the ‘pre-technological’ environment of his own lifeworld is well known. Borgmann described this attachment, which is revealed for him in Heidegger’s few examples of things, as “misleading and dispiriting” for a contemporary response to the technological society. We discuss this issue in Part 4.

flexible will of productivism and the dramatic material reality of modernity. From the perspective of ontological design, there is no outside to the world in which the structuring of Enframing is embedded and actualised. In a post-natural world, we can no longer see the technological conditions we are both *in* and *of*. The only way out of the will to power of technological Enframing that Heidegger saw, and that we live, is *through* it: by design. It is in large part by way of the *realisation* of its ideas that the vision of representation has been sustained, and it is therefore the redesign of the worlds we encounter that will teach us new ways of being-in-the-world.

⁸⁷Bruce Foltz for example takes our *relation to nature* as the seat of crisis. Bruce V. Foltz, *Inhabiting the Earth: Heidegger, Environmental Ethics and the Metaphysics of Nature* (New Jersey: Humanities Press, 1995).

CHAPTER 6. ENVIRONMENTALISM'S PROBLEM

...(we have made) every spot on earth ...artificial.
(Bill McKibben)¹

The environment has become the territory of public and political conscience in a productivist, televisual society. Yet the discourse of environmentalism, which struggles to bring the environment into visibility and awareness, displays those very same characteristics of restoration and recuperation that we find in televisual operation. The environment is perhaps the most prevalent 'pre-cultural' enclave and thus functions to provide an important symbolic counterpoint to technological society — it is the standing reserve of and for our aesthetically attuned sensibilities. Rather than providing a viable alternative to the televisual perspective, the environmental discourse makes the 'aesthetico-moral' anthropocentrism of the age of the world picture acutely apparent. The nature, presence and function of the environment, as a transform of (in)visible process into place, reveals the power of representation's interpretation of reality.

For Luhmann, the environment that is recognised by society is designed by society. Environmental problems are never blatant objective facts of the environment *per se* but problems the social system *exposes itself* to.² The changing environment disturbs the system, which must respond, but it can only respond in terms of and to its own ideas about the environment.³ Such disturbances do not threaten the integrity of the system but in fact steer the system's ongoingness. In this analysis, the nature of the environment that we recognise is the environment that is given to us by the system of objective vision in which we participate.

¹ McKibben, *The End of Nature* 54.

² Luhmann, *Ecological Communication* 29.

³ Luhmann, *Ecological Communication* 15 – 21.

Environmental stories have achieved thematic status and now dominate the media in documentaries, news items and advertisements.⁴ Anxiety and protest about environmental conditions emerge from the incidental exposure of the consequences of industrial and consumer culture, which continue to provide more information for televisual ongoingness. The visual aftermath of relational effects as environmental news fits neatly with the televisual refrain of closure. The exposed problem engenders recognition but not relationality; we recognise these stories by way of the limited iconic vocabulary of televisual information embellished by the observations of experts. As environmental effects such as drought continue to impinge on our taken-for-granted lifestyles, there is a growing need for the mass media to communicate about the environment — transforming such problems of the non-fit between systems and interpreted environments into mines of economic, biophysical and cultural information. In this, the construction of the environment is radically concealed and the key question of who actually owns and experiences these problems is lost. Environmentalism, acting as the representative of the environment within society that thinks it has harnessed the media in taking full advantage of its metonymic operation, fails to see this designing.

Environmental problems that are exposed in the media tend to generate a disproportionate resonance whereby a small change within a system easily triggers an effect-explosion: an over-reading within society and brush fire of observations.⁵ Thus the environment functions to dramatise the most banal

⁴ One particularly remarkable appearance of the environment in these terms is in the 'cause marketing' of Dawn dishwashing liquid in a television advertisement that promotes the product's oil-covered seabird cleaning capabilities. As we watch what appear to be diligent animal-loving professionals carefully removing the residue of yet another generic oil-related environmental accident, what is fascinating is how the violence of ecological destruction is normalised (implicitly this kind of use is as everyday as washing up the dinner dishes) at the same time as the company is made to look 'care-full'. The actual arrangement being undertaken is that Dawn donates 10c per unit sold to Taronga Park Zoo's construction of a Mobile Bird Washing Unit, (the aesthetics of which cannot help but suggest a travelling kitchen sink).

⁵ Luhmann, *Ecological Communication* 15-21. The recent myriad appearances of 'climate change' in news and current affairs programs, political debate, Hollywood blockbusters, public service announcements and scientific discourse are a case in point. Myerson discusses this mass emergence of ecology in *Ecology and the End of Postmodernity*.

aspects of everyday life. As Beck puts it: “(t)he lake one was about to leap into is revealed as a sewer, the superb, crispy lettuce in one’s mouth turns out to be contaminated and foul.”⁶ The sensible view disavows extrapolation of this instance to other possible instances in the environment, investing instead in the particularity of the thing exposed, so that, at least for a while, that thing — and only that thing — is symbolically disturbed.⁷ The sensible view awaits the security of decisive exposure.⁸ On the other hand, environmental effects with multiple ecological implications produce too little resonance if they are not coded televisually. In this analysis, the shape of crisis is dictated by quite arbitrary intensities of appearance.⁹

Such problems are a matter of adaptive work — “simplifying, illuminating and obscuring causal attributions”.¹⁰ This is not of the order of a distortion of reality, rather of its construction via the coercion of perceptions.¹¹ Luhmann says: “The ecological imagery, its schemata, its scripts are developed on a greenfield site, so to speak, they form a terrain that is not yet occupied.”¹² Because we have no intuitive experience of the effects of environmental problems, we are dependent upon *schemata* that metaphorically correlate

⁶ Beck, *Ecological Politics* 55.

⁷ The July-August 1998 Sydney water crisis is a case in point. The finding of ‘high levels’ of cryptosporidium and giardia bacteria in the drinking water resulted in a sudden, symbolic ‘toxification’ of the water-supply. It was largely acknowledged later that this was more a rhetorical rather than an actual threat, fanned by the media: “*The Sydney Morning Herald* ... prints a graphic coloured photo, a magnified view of giardia lamblia in a human small intestine. The huge headline above it reads CONTAMINATION. A sub-head reads ‘A taste of the Third World’ and the first line states that ‘Sydney woke yesterday morning and found itself in the Third World’. We are having difficulty with the analogy between awful deaths through cholera in developing countries and the low levels of giardia and cryptosporidium that seem to be the basis for the warnings.” L. Carson and S. White “The Sydney Water contamination crisis: Manufacturing dissent”, *Science and Public Policy*, 25. 4 (1998): 265-271.

⁸ This is why the notion of the ‘precautionary principle’ has arisen in public debate about safety in relation to consumer products. The precautionary principle promotes the need to act or intervene without full knowledge or ‘proof’ of all possible environmental and health-related outcomes of a design or political decision.

⁹ But one snapshot: NSW, Winter 2002. Emergency wards became crowded with parents whose children exhibited the ‘early warning signs’ of meningococcal disease, a crisis generated by media reports of the disease lurking in seemingly benign symptoms. Of course, these appearances are not always ‘arbitrary’, as the product market opportunities afforded by public anxiety demonstrate.

¹⁰ Luhmann, *Ecological Communication* 112.

¹¹ Luhmann, *The Reality of the Mass Media* 7.

¹² Luhmann, *The Reality of the Mass Media* 111-13.

ecological effects to recognisable actions. Thus people must activate experiences of their own, such as the layer of filth on the car parked outside, that fit with the idea of problems like ‘environmental pollution’.

Beck pinpoints the dangers of a lack of consciousness about the real effects of perceptions in a televisual environment. Ecological impacts “takes place downright mysteriously, since nothing has changed for the eyes, nose, mouth and hands.”¹³ Events like the Chernobyl accident make conscious such effects, but are completely dependent on televisual perception. The cultural process of manufacturing explanations for complex ecological problems holds society together. “Cultural condensations, magnifying lenses as it were, are required to allow one to extrapolate from the small and everyday to the large, thus bestowing control in everyday life over that which takes its course beyond the horizon of the perceivable and imaginable”.¹⁴

Environmentalism fashions impressions of singular, charismatic issues that, as Hajer argues, come to determine the public perception of much more complex realities.¹⁵ The environmental function of the image is, paradoxically, to *restore sensibility* with regard to such problems.¹⁶ The social and political consequences of problems are thus absolutely subject to the whims of televisual presentation.¹⁷ The media bear no burden for the consequences of ‘effect-explosions’ as they are, of course, merely reporting on factual aspects observed by experts. So a product, place or person that becomes the subject of such an effect — regardless of whether it constitutes a justified threat (for whom, by whom?) or not — is severed from its infrastructural world of social, geographic, economic and historical involvements from which a maze of other stories might emerge.¹⁸

¹³ Beck, *Ecological Enlightenment* 64.

¹⁴ Beck, *Ecological Politics* 48.

¹⁵ Hajer, *The Politics of Environmental Discourse* 21.

¹⁶ ““What eludes sensory perception becomes socially available to ‘experience’ in the media pictures and reports. Pictures of tree skeletons, worm-infested fish...condense and concretize what is otherwise ungraspable in everyday life.” Beck, *Ecological Politics* 100.

¹⁷ Beck, *Ecological Politics* 141-2. This comment also references Hajer on the rise of ‘discourse-coalitions’ *The Politics of Environmental Discourse* 42 – 72.

¹⁸ Beck, *Ecological Politics* 147.

Environmentalism sees its object as the *obverse* of the artificial. Yet it places all its bets on the coherent power of appearances and mediated exposure. Environmental groups represent the environment as a counter-image against the insecurity of a society becoming more aware of threats. In monitoring government and industry actions, issuing public statements and advocating or denouncing policy decisions, they seek to restore the normality and constant presence of an unharmed environment. All of this work has the effect of clearly delineating the domain of environmentalism as a domain of appearances. What is the heritage list, for example, if not a transformation of the environment into a series of images, appearances that have been forcefully impressed by human interpretation and production, into the land? The task of preserving, protecting and restoring ‘the environment’ as a series of icons cordoned off from human industrial activity and influence, is a PR task that is becoming too hard to handle because, these places are also functioning environments with social, cultural and biophysical relations traversing them that can’t always be hidden or ignored.¹⁹ While the image in environmentalism actually organises practices and assembles geographical and cultural places, an interrogation of images and the ways in which they work on a cultural level has no place in environmental discourse. While environmentalism uses images relentlessly, for environmentalism, images are simply representations.

The televisual constitutes the site and sum of mainstream environmental politics, precisely because the reality of the environment ‘out there’ is so apparently secure. Maarten Hajer calls the approach of environmentalism a ‘realist’ approach, which:

(...) assumes incorrectly that the natural environment that is discussed in environmental politics is equivalent to the environment ‘out there’.

¹⁹ In 1987, the social impact of the Wet Tropics nomination on the timber towns of north Queensland was so strongly felt that a 21 member delegation was sent from Queensland to Paris in a failed attempt to stop the nomination. More recently, the Jabiluka uranium mine at Kakadu prompted an international condemnation of Australia’s handling of its ‘national treasures’, including in this case its indigenous populations. The chair of the management committee for the Wet Tropics remarked: “we must jealously guard our credit rating as a

This assumption fails to recognise that we always act upon our images of reality and are dependent on certain discourses to be able to express ourselves.²⁰

This approach depends heavily on the visual documentation of the ‘real’ and therefore images — both discursive and visual — have become the *modus operandi* of environmental communication. They make the dilemmas and complexities of environmental problems more manageable, consensual and finite — from ‘silent spring’ to ‘greenhouse effect’.

Certain images have been particularly influential in the discourse of environmentalism. Two examples come to mind: Peter Dombrovskis’ famous ‘Rock Island Bend’ that was used extensively in the campaign to save the Franklin River in southwest Tasmania from damming in the early 80s, and the ‘earth rise’ taken during the Apollo VIII mission in 1968, which became the calling card of the environmental movement and a missive of cultural change in the 1960s. These images, in terms of their content as well as the context of their use and production, share certain revealing characteristics.

Dombrovskis’ deep-focus, grainless images have been credited with inscribing the Tasmanian wilderness indelibly into the hearts and minds of environmentally conscious people the world over. ‘Rock Island Bend’ depicted a view of the Franklin that would be lost should the dam go ahead, and was instrumental in forcing the environment to the top of the agenda in the 1983 Federal election. Many say that the Labor government achieved power on the back of promises to stop the project, which had achieved an excessive resonance. This emphatic response reinforced the role of the image in the awareness-raising campaigns of environmentalism.

There is a long history of attributing therapeutic and spiritual significance to charismatic places such as Rock Island Bend. They exist in the popular imaginary as places of human retreat and renewal and function as a testament to our idea of nature captured in an anthropocentrically framed

supreme manager of World Heritage and ecotourism.” Murray Hogarth “Unnatural Acts” *Sydney Morning Herald Good Weekend* July 10, 1999 21.

window of space and time. As McKibben writes: “Nature, while often fragile in practice, is durable in our imaginations”.²¹ As long as we have an abundance of images that depict an untouched, natural world we still in some strong way feel that we have that world.²² Similarly, familiar images of environmental despoliation threaten the environment as standing reserve. Beck says:

It is not the despoliation of nature, but the jeopardisation of a specific cultural model of nature that provides the sounding-board for the ecological alarm of an entire society. The image of nature destroyed, and whose destruction is experienced, is the counter-image of the hectically mobile, meritocratic, affluent society; and the latter jeopardises the enjoyment of what has been achieved by all the tolls of progress: cars, roads, consumption, mobility.²³

Images of an intact, natural environment remove pressure from environmentally destructive ways of living. While many environmentalists suggest that there is a growing awareness of the environment, we live, build and dream in a world that increasingly wills itself into immunity from elemental destruction. Environmentalism shares the objective perspective that is made manifest by image-technologies. The refined detail of Dombrovskis’ images bears no mark of the human effort of capturing them. In a press report following the death of Dombrovskis, Jane Cadzow remarks on the extensive hard technology which he needed to take on his solitary wilderness expeditions — large format Lihof Master Technika camera, tripods, lenses and additional paraphernalia — and reported speculations that it was the effort of lugging this gear that might have caused the massive heart attack which killed him.²⁴

²⁰ Hajer, *The Politics of Environmental Discourse* 16.

²¹ McKibben, *The End of Nature* 53.

²² This point was raised by McKibben in relation to wildlife photography: “How can there really be a shortage of whooping cranes when you’ve seen (...)ten times more images than there are actually whooping cranes left in the wild?” Bill McKibben “Why the Nature Paparazzi should lay off a little” *The Australian Financial Review* November 14, 1997.

²³ Beck, *Ecological Politics* 54.

²⁴ Jane Cadzow “A Lasting Image” *The Sydney Morning Herald* “Good Weekend” 22 March, 1997 42.

An environmentalist in full flight, weaving aerial views of clear-cut scars in the wilderness into his or her discourse, does not stop to question the impacts required to obtain these images from the air, nor the conditional reality of the view they avail. They do not stop to question the nature of the environmental awareness being projected or being generated any more than a scientist would interrogate the depiction of a virus as military arsenal in a microbiology lecture. The perceived exigency of the communication relegates to the image a merely instrumental role, which the image in turn reciprocates.

When NASA astronauts brought back the ‘earthrise’ image from the Apollo VIII mission on Christmas eve, 1968 (according to the NASA archive, the image was accompanied by a bible reading from the crew: “God created the heavens and the Earth, and the Earth was without form and void”), it is fair to assume that it was seen as a record of biophysical fact rather than a missive of cultural change. It is now however almost impossible to imagine the world before the ‘earth-rise’ (notwithstanding the prescience of Heidegger’s age of the world picture or more fundamentally the modern astrophysical world-view delivered by Galileo’s instrument).²⁵ The conceptually satisfying globe gave shape to the concept of ecology and closed eco-systems, and supported and extended the rise of technologies of global measurement. For the first time, says Wolfgang Sachs, a view of the planet as an object of management emerged, and thereafter, environmental problems could obtain a global meaning correlative with the political and cultural impacts of ‘globalisation’. “Had not the image of the planet shown that the unity of mankind is not just a dream of the Enlightenment but a biophysical fact?”²⁶ The agenda was thus also set for the impotence of anything but a global view of sustainability, and the commencement of the widespread cultural induction into UN humanism,

²⁵ Hannah Arendt, *The Human Condition* (Chicago: The University of Chicago Press, 1958) 261.

²⁶ Wolfgang Sachs, “Sustainable Development and the Crisis of Nature” 37.

the designing of which we can now discern in any local environmental policy or plan.²⁷

Along with the sense of fragility communicated by the image is an impression of incredible anthropocentric power — the point of view from space carries the implication that human survival transcends material conditions. The earth-rise is not, in this sense, an image of the earth but an image that affirms a particular perspective and conviction. It is also, of course, deeply ironic that the earth-rise image became a key icon of the environmental movement obtained, as it was, on the back of a vast and ever growing fossil energy fuelled space program whose launch events — once a source of international focus — now only make an impression if something goes wrong in spite of the material expansion and normalisation of the program.²⁸

Transforming the environment into a commodity for televisual consumption resolves the paradox of a moral consumerism that wants to make changes without being implicated in these changes. With the environmental identity secure, television can unproblematically return as a harmless instrument of the modern democratic process. By virtue of its ability to “introduce an idea to a hundred million or even several billion minds simultaneously” it is thought, television “must be enlisted in the cause of sustainability, and soon.” Thereby a more environmentally ethical television “could rapidly achieve the shared understanding and consciousness needed to move toward a more workable and satisfying future.”²⁹

The environment is put into reserve by the televisual — it can be saved, sponsored and visited, but it will not impinge, threaten or make demands on

²⁷ Hajer indicates that the themes of UN publications and declarations from the 1972 Stockholm Environment conference were heavily influenced by the planetary image. Hajer, *Politics of Environmental Discourse* 8-9. On the point of top down dissemination, I am referring to the widespread influence of the Agenda 21 doctrine that emerged from the 1992 United Nations Conference on Environment and Development as an internationally implementable ‘action plan’.

²⁸ Recent private enterprise developments in ‘democratic’ space travel have attributed to the hardware of the traditional space program a dinosaur-like weight and stasis.

²⁹ Duane Elgin, “Sustainable Television”, *The Ecology of Media* 23 (1989): 26.

our lifestyles. The televisual scripts sustaining the environment as object have already in numerous ways structured the discourse of industrial responsibility.

But one telling example of this discourse comes from the international advertising group McCann-Erickson, who have produced a high profile UNEP-sponsored report entitled *Can Sustainability Sell?* This report presents a range of case-studies all of which aim to suture the apparent rift between the values of environmentalism and those of consumerism:

While there is a general confusion regarding the terminology ‘Sustainable Consumption’, it is clear that young people today have strong concerns about the principles that sustainability highlights. These fall into three key areas: the protection of the environment, animal testing and human exploitation in developing countries. With such strong and consistent views from across the globe, why aren’t today’s youth doing more? (...) One of the main reasons for inactivity is the contradiction in the minds of consumers. They are both hedonists and idealists. They want to ‘Have it All’: a sustainable planet *and* their favourite brands. This is the ‘use and throw’ generation, but at the same time, they have dreams of a private and wonderful world. Most importantly, they are not aware of the consequences of their own shopping behaviour. There is a feeling that they are ‘unable to change the world’. Yet they want the world to change.³⁰

Of course, this problem can be resolved by the provision of more products. This accommodating move can also be read back into the discursive maxim of the Brundtland Report: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This oft-cited maxim carefully leaves the distinction between ‘wants’ and ‘needs’ untouched.³¹ It provided industrial culture with an ostensible destiny and legitimate environmental purpose, but also with

³⁰ McCann-Erickson, *Can Sustainability Sell?* (McCann-Erickson World Group, 2000) 10.

enough leeway to refuse reflection on its contradictory premises. Wolfgang Sachs asks the obvious question: “(I)s sustainable development supposed to meet the needs for water, land and economic security or the needs for air travel and bank deposits?”³²

For culture to continue to accept that productivism is good because it is productive, a meaningful disarticulation from its relational implications must continue to be secured and normalised.³³ The designing power of the televisual resides in its ability to systematically *de-realise* relationality by normalising experiential access to that which lies outside one’s sphere of influence and decision-making capacity. At the same time, the damaged environment is never pictured as a consequence of televisually generated desires.³⁴

Understanding the environment as a televisual construct shifts the meaning of environmental management considerably. No longer signifying a practice of responsible industrial behaviour, environmental management in effect becomes a process of carefully managing appearances.³⁵ The coding of the environmental ‘inputs’ and ‘outputs’ of industrial activity make every problem answerable in ways that promote and secure productivism. Beck aptly

³¹ The distinction between needs and desires have become irrevocably blurred. After Baudrillard, Fry remarks, “...bio-material and symbolic-immaterial ‘needs’ cannot be untangled.” Fry, *Remakings* 47-54.

³² For a discussion of the semantic ambiguity of ‘sustainable development’ and its history see Wolfgang Sachs “Sustainable Development and the Crisis of Nature”, *Living with Nature: Environmental Politics as Cultural Discourse* 23 -41; also Fry, *Remakings* 26 -31.

³³ Davison notes “In its 1992 *World Development Report*, the (World) bank rhetorically posed the question, ‘What is sustainable?’ responding, with disarmingly circular logic, that ‘(s)ustainable development is development that lasts.” Davison, *Technology and the Contested Meanings of Sustainability* 19.

³⁴ Very occasionally this relation is at least suggested. Press reports on the fading coral of the Great Barrier Reef have for example in recent times tended to indicate the contribution of accelerated global warming — producing warmer seas, higher sea levels, more frequent storms — to the problem, thus implicating the contribution of the flights of ‘ecotourists’ intent on seeing the reef. However this problem is contextualised by the economic threat of the fading tourism industry, and as such becomes just another unacknowledged contradiction of affluent, late modern life — an object of knowledge but not necessarily a marker of the need for behavioural change.

³⁵ In its 2002 report, Toyota incorporates the *quantity* of environmental statements that it produces as an indicator of environmental performance.

calls this organisation of values a process of “symbolic detoxification” whereby symbolic disarticulations *are* effective disarticulations.³⁶

The oil company Saudi Aramco’s ‘commitment to the environment’ was demonstrated in the *Can Sustainability Sell?* Report by its construction of a 600-acre evaporation lake for waste water; “attracting more than a dozen new bird species previously unknown in Saudi Arabia and giving the country a richer bird life than any other part of the Middle East”.³⁷ Whether this imagistic conception of biodiversity was read back into the project as its ostensible value or whether it was designed as such, it emerges here as the merely material attribute of a corporate identity exercise. A different picture might emerge on the basis of a few questions; what was the evaporation lake constructed upon? What are the particular characteristics of this wastewater and the impacts of leakage into the surrounding land? What are the impacts on the local region of this new influx of inhabitants? How will these impacts be assessed, monitored and managed over time? How is the lake itself managed? How does this lake figure within the total picture of Saudi Aramco’s activities?

Examples such as this indicate that industrial culture takes full advantage of the (in)visibility of ecological problems and their dependency on modes of revealing. The impacts and effects that fall off the scientific assessment table and re-enter society become attributable either to individual scapegoats or to every individual consumer, and thus disappear on the level playing field as a cost of living in modern society.³⁸

The logic of environmental credit schemes that have gained support from a ‘rainbow coalition’ of big industrial polluters, scientists and environmentalists provide another version of symbolic detoxification, whereby a company is able to effectively disarticulate itself from its business as usual expansion of polluting actions. The idea, for example, that the environmental cost of harvesting trees in one location equals the environmental benefit of planting them in another, that one can buy the conservation of an ecosystem to

³⁶ Beck, *Ecological Politics* 51.

³⁷ McCann-Erickson, *Can Sustainability Sell?* 12.

compensate for polluting activity, or that the mining and burning of fossil fuels can be ameliorated to any extent by an economic claim on trees as carbon sinks or by biotechnological reforestation programs, are interpretations completely devoid of an understanding of relational interdependencies, and obfuscate the imperative for an overall reduction in the depletion of resources and emissions.

Such examples delineate the actual territory of environmental concern. For Beck, the process of symbolic detoxification is not however comprehensive enough to conceal the problems produced by industrial society as it begins to sense its own mortality. He argues that ecological impacts are pushing us into a new phase of modernity in which industrial culture will be forced by its production of multiple, long-range hazards to overcome its own limits. This is a vision of a 'reflexive' modernity that has learnt to doubt itself and to embrace the power to "act without certainty."³⁹ For Beck, we must develop the eyes and ears adequate for this new phase of modernity:

What people see or do not see is not determined by their visual acuity, nor does it depend on their attentiveness, it is essentially codetermined by what they know or do not know. Knowledge unblocks the view. Someone who knows more and different things also sees more, sees differently, and sees different things.⁴⁰

Moving against the scientific paradigm that has relinquished phenomenological knowledge, Beck seeks to mobilise the domain of appearances to effect the 'ecological enlightenment' of the layperson. He speculates: "what if radioactivity gave one an itch?"⁴¹ It is *experience as illustration* that he says can trigger political reflexivity and raise questions, stir up and enliven doubts in the public sphere.⁴²

From our perspective the project of redirecting accountability for public judgement is an important one, but we have to pay more attention to the

³⁸ As Beck says, if "it jeopardises everything, ... it does not exist." *Ecological Politics* 87.

³⁹ Beck, *Ecological Politics* 40 – 43.

⁴⁰ Beck, *Ecological Enlightenment* 13.

⁴¹ Beck, *Ecological Politics* 184.

⁴² Beck, *Ecological Politics* 16.

designing of structures that carry on regardless, and their perpetuation. As Bateson says, we are governed by epistemologies that *we know* to be wrong.⁴³ The problem of our vision is shared by the existing designed world that is both designed by and conditions our vision. If we can agree that we live in a world heavily populated by designed products as well as by the people who use them, we need to acknowledge that these products powerfully delimit human insight and will only ever promote the way of being of their making, never themselves become capable of uncertainty or ‘self-reflective’.⁴⁴ The ‘saving power’ will not emerge from the self — particularly if that self is understood as an enlightened being that has achieved environmental immunity — but from the designing of a world of difference in which the self is always conditioned by the naturalised artificial environment.

We have considered the vision of representation as an historical inheritance that is sustained and sustains us in our familiar world through televisual operation. We also want to learn to see the televisual image as a difference that makes a difference — that communicates *beyond* what it knows or can see.

The *eidos* is decisively silent on the material implications of mass media production. While the image can picture environmental effects — such as the community protest about communications infrastructure being erected in a school ground — it cannot reveal the contradictory relations that brought this situation into being. We have suggested that the rendered presence of the image is never a mere copy, never illusory, but a coherent force that matters

⁴³ Bateson, *Steps to an Ecology of Mind* 493.

⁴⁴ Few involved in the sustainability debate appear to make this connection. Aidan Davison is an exception. He says: “...the reality remains that artefacts such as planes and cars are representative of political and moral commitments that we sustain by the mere fact of our use of them.” Davison, *Technology and the Contested Meanings of Sustainability* 103.

ecologically. This is what televisual critique, in its desire to get at what television is, tends to forget.

Most thought on television takes place within the bounds of its referential system: the media. This is the ‘habitat’ of the image. Weber’s critique, informed by a deconstructivist perspective, takes us in a *televisual* direction insofar as television can be seen as an unsettling force. His essay opens the television to a range of heterogeneous operations and is unusually premised on how little we still know about something so ubiquitous and seemingly ingenuous. However in questing after the specificity of the medium — even while the answers he provides are never unequivocal — we are still caught between the set and the screen. Weber does not meditate on the ontological, material and cultural consequences of television implied by the televisual disorder he identifies. In this, television is still merely interesting in the sense that it can be made manifest, resolved by theoretical attention.

Weber says the television ‘set’ conceals a heterogeneity of placings that can be gathered into three distinct operations: production — the place (or places) where the image and sound are recorded; reception — the place (or places) where those images and sounds are received; and transmission — the place (or places) in between.⁴⁵ This schema posits the actual and ostensible direction of operational communication as the same. The extent to which *each* of these operations is generative of differences, however, also needs to be taken up. The cultural transmission of images is also materially transformative.

Here we need to observe television with a learning disposition. We need to look into the eidetic ‘nerve endings’ of the image and connect it to a massive material infrastructure of which it is, to recall “The Age of the World Picture”, but the most visible outgrowth. This involves catching sight of the matter that admits the *eidōs*, and is left in its wake. We have in this chapter referred to the televisual image primarily in its iconic mode (which is not to

⁴⁵ Weber, “Television: Set and Screen” 117.

deny or exclude its indexical and symbolic possibilities).⁴⁶ We have explored the image as a form of script with ontological, cultural and material implications. Let us now unsettle the televisual icon with some different views that anticipate the direction our attention will go in. Through them we glimpse new kinds of relations intersecting the passage from production, transmission to reception:

The first view is that of the *materiality* of the icon — the physical assemblage, the image as material thing of light, heat and sound. The second is the *partiality* of the icon — the icon conceals the material, cultural and historical conditions of its design and the massive reach of its simultaneous appearances. The third is the *infrastructure* of the icon — all the hardware and groundwork that is needed to bring the image into being, and that is regularly torn up, altered and expanded according to the desire of the market. The last view is the *afterimage* of the icon — its cultural and material refuse. Each technological set is destined to become ‘junk’ and will its own end into being.

These different views give back to the icon some of the material dimensions it denies. Let us focus on but one of these devalued aspects, which nonetheless shades into others. The view of the *infrastructure* of the icon reveals the extreme effort required to bring the image, as a disarticulated event, into being. The installation of infrastructure requires an extensive labour of topographical remodelling. The existing ground is forced to conform to plans that are increasingly driven by a remote designing.⁴⁷ The infrastructure of transmission (the between place in Weber’s schema) — television towers, electrical power stations and power lines, electrical wiring, cables, aerials,

⁴⁶ Here I refer to the work of American Pragmatist philosopher, scientist and mathematician (and contemporary of Ferdinand de Saussure) Charles Sander Peirce. We take up the theory of the sign in Part 3.

⁴⁷ Foltz evocatively describes the difference in the ‘environmental awareness’ of a computer aided construction site for which the earth appears as merely free to work, rather than being worked with an openness to the specific nature of the site being engaged. Foltz, *Inhabiting The Earth* 85. In Sydney as elsewhere, the ostensible attractions of water-front development locations mask the fact that these sites were often previously highly toxic industrial sites,

satellite dishes, satellites as well as the people, processes, and multiple tasks and risks involved in designing, making, building, installing and maintaining this infrastructure — offers but a glimpse of the material implications of the productivism of the televisual.⁴⁸ Infrastructure reopens a view of the distance between the sites of production and reception, which the media force into objective closure. The relations are not too hard to see if one is so inclined. However such relations do not belong to the culture of the image — in fact, the appearance of infrastructure in many instances destroys fictive space.⁴⁹

The increasing audio-visual fidelity and information choice offered by digital TV, for example, involves massive increases in power consumption and infrastructure roll-out, and carries in its wake an extensive and continuing analogue product waste-stream for which neither the community nor industry was initially compelled to notice or prepare for.⁵⁰

The transformation of the ‘screen with a backside’, the cathode ray tube with its sluggish hertzian technology, into the clean screen, solid state of the LCD is but another advance in technological care-taking in which the increased burdens of materials manufacture and tooling, production waste and techno-

located thus so as to use water as a conduit for pollution, the same water from which fish for supper were often (and, in spite of multilingual, pictorial warning signs are still) pulled.

⁴⁸ It should be noted here that Levin attempts a relational view of television as a different gathering of the *Gestalt*. However he evacuates the designing power of artificial worlds by limiting his vision to the (in)visible *people* implicated in bringing the product into being. Levin, *The Opening of Vision* 445 – 6.

⁴⁹ Luhmann, for example, excludes the materialities of communication from the reality of the mass media, as “they are not what is being uttered.” *The Reality of the Mass Media* 4. Second-order observation is trained on how systems construct reality, not on the costs or consequences of their construction. Luhmann determines system boundaries strictly by the social applicability of their elements. This is an interesting aspect of the absolute and rigorous integration of his systems theoretical approach because, as for representation, there can be no consequences for an autopoietic system that merely perpetuates what it knows and responds only to itself.

⁵⁰ The energy consumption of digital television was the subject of an article that came out just prior to its introduction in Britain in the late 90s, which was incredulous about how the design of the first digital devices entailed an avoidable factor 16 increase in power consumption over analog receivers. Barry Fox “Wasted Watts” *New Scientist* 157.2121(1998):8. At this time, the EcoDesign Foundation was conducting research into the cultural issue of waste, particularly in relation to the ‘blind’ development of new waste streams, and was struck by how few were considering this coming problem. An exception was the work of the Centre for Design at RMIT on electrical and electronic waste — see John Gertsakis and Chris Ryan, *Short Circuiting Waste from Electrical and Electronic Products* [Melbourne: Centre for Design, RMIT, 1996].

aesthetic obsolescence are all erased. The lack of interference or ‘ghosting’ which, with analogue transmission, served as an interruptive reminder of the image infrastructure during viewing, has disappeared completely from digital systems. The free rein of digital algorithms that can compose, decompose and recompose themselves at will — all with a decreasing need for *apriori* material — further alienates the development of another vision of the burden of technological innovation.

Each new technological thing, in its striving toward the completion, communicates a further decoupling of designed experiences from their material consequences. In their study of new technologies of vision in the early 90s, Tana Wollen and Philip Hayward say that the development of audiovisual technologies is driven by an illusionary rather than a realist project. Each advent of technological fidelity carries cultural implications as “our notions of the ‘real’ are changed by the ‘realisms’ which supersede each other to represent it.”⁵¹ Wollen and Hayward question the ways in which developments in ‘realism’ will skew the entrenched categories of subjectivity and objectivity. However rather than being loosened, the grip of rational categories has become further embedded by the advancing project of televisual ‘realism’. The fidelity of experience is enacted, enhancing the ease of relational disarticulation by design.

In this Part we have shown that the vision of representation does not merely facilitate the forgetting of ‘the ground’ or environment from which things are torn, into which they are buried and released, it entails a widespread task of value management that perpetuates our cultural blindness to relationality and has extensive ecological ramifications. The incremental ethics of designing for sustainability proposed in Part 1 is thus supplemented by the problem of normative vision. The different views of the icon enumerated above suggest the possibility of designing *alienations* of normative vision. These views, which contrast starkly with design’s project of generating

⁵¹ Philip Hayward and Tana Wollen eds., *Future Visions: New Technologies of the Screen* (London: British Film Institute, 1993) 2.

transparency in all areas of life, anticipate the potential of the sign for design practice. The implication is that by way of such critical observations, we can *practice* seeing differently. We can learn to see images as partial without, however, evacuating their own substantial reality. The image that shows, filters and obscures can also function as a sign of the (in)visible relations it brings into being.

PART 3: SIGNWORLDS



Figure 3 Parramatta Road, Ashfield 1999.

PART 3: SIGNWORLDS

Without analysis, the sign could not become apparent.

(Michel Foucault)¹

(T)he semiologist sees the sign moving in the field of signification, he enumerates its valances, traces their configuration: the sign is, for him, a sensuous idea. (Roland Barthes)²

The task of this Part is to explore how we might begin to develop a more relational intuition in light of the televisual. We consider the mechanism of the sign and the acquired skill of reading signs, as derived from linguistics and taken up by literary and cultural theory, in terms of the contribution that critical analysis could make to the reading/researching practice of ontological design. De-sign retrieves the sign as a tool for revealing the cultural and material construction of naturalised design environments. Informed by the concept of defuturing as a “learnt act of critical deconstructive reading”, de-sign is integral to the task of learning to design for more sustainable cultures.³ This Part explores and tests the theory and politics of the sign as a way of setting up the importance of ‘de-sign’. It argues that the sign without de-sign is incapable of effecting cultural change.

INTRODUCTION

The idea of the environment causes blind spots in which language and culture conceal themselves. It is as though there is some kind of qualitative difference between environmental substance and the glamorous, rhetorical surfaces of the late-modern world with which the cultural disciplines are so enamoured. This is perhaps an expression of an aesthetic need, a basic experiential demand for relief from the sensory manipulations of our designed worlds. As Daniel Harris

¹ Michel Foucault, *The Order of Things: an Archaeology of the Human Sciences* (New York: Vintage Books, 1973) 61.

² Roland Barthes, *Critical Essays*, trans. Richard Howard (Evanston: Northwestern University Press, 1972) 209.

³ Fry, *A New Design Philosophy* 11.

says in the introduction to his book dissecting the aesthetics of consumerism: “(...)my life is suspended above an abyss of ignorance. Virtually nothing I own makes sense to me.”⁴ This material ignorance is the underside of the designed ease of our everyday lives. We mostly do not know or think about how it is we get to do what we are able to do. And this sense of ignorance is certainly not a feeling that necessarily wills an effort to see otherwise (Harris, for example, goes on to write a semiologically erudite and entertaining elaboration of his ignorance).

The desire to gain an environmental awareness of the designed world (that design generally works so hard to suppress) is both reasonable and necessary. But turning to the disciplines of the natural world, ground as they are in their own representational discourses and histories, does not provide a more authentic account of the real. We argue that reality is produced by effects, forces and impacts rather than by the unmediated appearances of the scientific world picture.⁵ More awareness about the designing conditions of our familiar world is going to require seeing more as Beck says, but this seeing, as we have suggested, entails unfamiliar efforts. The argument put forward in this thesis is that our current situation of worldly ignorance, burgeoning productivism and ecological conflict — a situation of unsustainability — requires imagining and bringing into being other kinds of design realities. This ineluctably entails interdisciplinary collaborations.

In this regard, design theory and cultural theory have something to learn from each other. In this Part we ask what design theory can learn from the cultural theoretical mode of analysing visual culture, for which the world is text and thus a matter of reading.⁶ Cultural theory removes the dependency of

⁴ Daniel Harris, *Cute, Quaint, Hungry and Romantic: The Aesthetics of Consumerism* (New York: Basic Books, 2000).

⁵ Bateson adopts the Gnostic terms *pleroma* and *creatura* to refer to the explanatory worlds of forces and impacts (which knows nothing of ideas, distinctions) and that of ideas (which equally cannot ‘know’ the nature of nature). Bateson, *Steps to an Ecology of Mind* 461.

⁶ The world *as* text is a fundamental assumption underlying the vocabulary of literary and cultural theory. An oft-quoted maxim from Derrida can be cited here: “*There is nothing outside of the text*”. *Of Grammatology* 158. This resonates with Heidegger’s notion of language as the ‘house of being’ and links to the (in)visible relationality we explored in Chapter 2. The

analytical reading on situations of explicit, technical breakdown as were discussed in Part 1. Generally, the realist approach of the sciences renders the sign transparent, which is in stark contrast to the approach of humanities-based disciplines like philosophy and cultural theory, which tend to deny *any* transparency of meaning.⁷

Certainly for industrial design, critical analysis of visual culture does not produce enough resonance to cause reflection, even while the image tends to govern design from concept development to prototype to the telegenic values concealed in the pragmatic pressures of the market. The process of designing is increasingly dematerialised by the transparent rendering of software, in which the matter that admits the *eidōs* is uniformly electronic. Despite the increasing ease with which design software projects and assembles products of radically different materialities, this matter does not promote carefulness, rather, it invites a new abandon in design.⁸ In the theatrically perfect, computer-aided design environment, the differences between product materials are rendered as differences of aesthetic texture. The bringing together of form and material becomes a matter of image-making skill and is not necessarily subject to the designer's understanding of material interfaces or how a material might wear over time in relation to the conditions of its use. This has important implications in relation to the judgment of design quality and appropriateness. We are reminded of Marshall McLuhan's description of

generality of the 'Text' is also explored by Roland Barthes in "From Work to Text" *Image-Music-Text*, trans. Stephen Heath (Glasgow: Fontana Collins, 1979).

⁷ McHoul makes this comment in relation to 'the postmodern turn', which he aligns with Derrida's deconstruction of the metaphysics of presence. McHoul, *Semiotic Investigations* 198.

⁸ From the images of 3D modelling and computer-aided manufacturing software, the process of 'rapid proto-typing' can directly produce a 3 dimensional polymer object, bypassing the manual negotiation of the object on paper or in the workshop. The pragmatic market driven benefit of such 3D rendering is its ability to accelerate the design process, which also enhances the tendency to lose sight of the provisional nature of the *eidōs*. We might recall here Heidegger's discussion of the ascendancy of the *eidōs* in *The Basic Problems of Phenomenology*: "All production takes place in conformity with an original and prototypical image as model...In the antecedent imaging and projecting of the prototypical image, there is already a direct grasp of what the product-to-be really is. What is at first thought of as the original, prototypical model to be copied in production is apprehended directly in the imagining. What constitutes the being of a being is already anticipated in the *eidōs*. That which

the television as a ‘cool’ medium, as inherently remote no matter how in touch developments such as interactivity might make one feel.⁹

The natural condition of everything in this design environment is pristine, changeless newness and behavioural predictability. All of this makes tuning in to the matter of things and to the limitations of software in the design process a task requiring semiotic skill. Design practice needs more cognisance of the designing power of images. Designers need de-sign skills to develop the ability to read into images aspects of the materiality they gather, the designing they compel and the perceptions they reveal. Simply put, designers have learnt to see design as a process of image manipulation and have little cause to value design beyond this work. We will show that the sign can open a relation to the effects of design decisions.

Signs are a matter of communication, of some sort of perceived relation. In an interesting twist on convention, scientist Jesper Hoffmeyer argues that it is the sign, not the molecule that is the crucial underlying fact of scientific reality. Hoffmeyer speaks of a semiosphere — an idea that is echoed in a design context by Manzini — to indicate that all organisms live first and foremost in an environment of signs, a world of signification, and that the biosphere must be understood in terms of the semiosphere and not the other way around.¹⁰ This environment of signs is, he suggests, undiscovered territory because science is caught up in its objectifications and forgets about the import of *communication* to the intent and behaviour of things. This recalls Bateson, who showed us that ecological flux is a form of communication that links mind and environment. For him information is not just floating around for the ordering and securing gaze of science, but is a difference that makes a difference. Bateson reveals the complex relationality of the sign in his description of two animals at play. The gaming animal’s bared fangs ‘mention’

says how the thing will look or, as we also say, how it will turn out ... is already anticipated and circumscribed in the *eidos*.” (151).

⁹ McLuhan, *Understanding Media* 22 – 32.

¹⁰ Jesper Hoffmeyer, *Signs of Meaning in the Universe* trans. Barbara J. Haveland (Bloomington and Indianapolis: Indiana University Press, 1993) viii.

but do not mean an attack. This sign of play is in some respects digital — a discrete message cut out of the flow of actions, a meta-communicative statement. However the playful information is in no sense illusory; it has both cause and consequence, and it is in fact these aspects that define the meaning of the act. A lack of understanding of the *difference* between play and pending attack might entail a dangerous misreading of the situation.¹¹

What is interesting in this atypical thought on the sign from the scientific world-view is its contextual grounding and the primacy it places on relationality. In essence the being of something is very much related to what it *does* which is related to its perceptual horizons of understanding and interpretation. It is these aspects that govern presence.

The sign is not for our purposes a *type* of image, but is rather the registration of another perspective on the image that immediately calls upon the disposition of a viewer. One might, for example, learn to watch a film as historical record, as open text or as a script. Signs are *articulations of value*, dependent on their setting.¹² They cut through the background of naturalised images and make a connection, make a difference. Images are, on the other hand, types of signs. We have spoken about the televisual image as iconic — it brings into being a self-referential and objective disposition. As objects of design and analysis, images are also *indexical* (again with respect to Peirce, this is not to deny their iconic or symbolic realities), that is, they *force attention* beyond themselves.¹³ Umberto Eco says “there is a sign every time a

¹¹ Bateson, *Steps to an Ecology of Mind* 179-80.

¹² Roland Barthes, *Elements of Semiology*, trans. Annette Lavers and Colin Smith (New York: Hill and Wang, 1977) 54 -57.

¹³ The index “like a pronoun demonstrative or relative, forces the attention to the particular object intended without describing it.” Charles Sander Peirce, “A Guess at the Riddle” *The Communication Theory Reader*, ed. Paul Cobley (London and New York: Routledge, 1996) 58. Peirce’s trichotomy of sign relations — the icon, index and symbol — I read here not as kinds of signs, but as shades of interpretation. In spite of the enabling possibilities in his schema, I do not deal with Peirce’s work directly. I focus on Ferdinand de Saussure’s linguistic semiology as it is more interested in intentional *communicative interaction between subjects* than in the sign as a geometrical relation, *per se*. The theorists whose work I find most enabling with regard to reading design are also expressly ‘post-Saussurean.’ M.Gottdiener argues that it is the ‘idealism’ of Saussure in distinction to the ‘materialism’ of Peirce that makes Peirce’s semiotics more relevant to an analysis of material culture, as he places the sign ‘in’ the objective world as much as ‘in’ the mind (10). As we shall later see however, the

human group decides to use and to recognize something as the vehicle of something else.” Thus “smoke is only a sign of fire to the extent that fire is not actually perceived along with the smoke.”¹⁴ A sign in this sense is a form of legitimation of the (in)visible. It refers to the non-present but also in the same moment becomes the site of its expression; the sign alienates the transparency of presence. This is the special power of the sign; it is *open*, internally enabling other associative relations to emerge — or, in light of the particular being of the image discussed in Part 2 — other forms of closure.

In his essay tracing the modern history of representation, Foucault tells another story of representation’s transfer into the normative order of things. The *work* of representing became absorbed into the binary structure of the sign, which carries a signified, a signifier and also in the latter, the *idea* of its representative role.¹⁵ Since the 17th century the sign is both *indication* and *appearance*, it is both a relation to an object and a manifestation of itself.¹⁶ The sign that relates therefore also *contains* a relation. This internal relationality is not present as such in the image, which in Roland Barthes’ words is phenomenally *indisputable*, a ‘credible whole’.¹⁷ The sign tames the image, puts it at a distance. We have seen that the televisual image demands that we alienate an other as a form of recognition, and then *forget* this act of alienation. The sign on the other hand is, as such, a matter of analysis and thus always implies both a relation to a reader and the internal relation that makes it a sign. To declare that some thing is a sign will invariably demand a closer look and an attempt to discern its intended meanings. And again, meaning never stands

materialism of idealism is commonly missed, as it is in this work. M. Gottdiener *Postmodern Semiotics: Material Culture and the Forms of Postmodern Life* (Cambridge and Oxford: Blackwell, 1995) 3 – 33.

¹⁴ Umberto Eco, *A Theory of Semiotics* (Bloomington and London: Indiana University Press, 1976) 17.

¹⁵ Foucault notes that the ‘psychologistic’ tone of Saussure’s thought is a rediscovery of the Classical condition for setting up the binary structure, that is, doing away with resemblance as it belongs to thought. Foucault, *The Order of Things* 67.

¹⁶ Foucault, *The Order of Things* 65. Barthes also mentions this genealogy in *Elements of Semiology* 35.

¹⁷ Roland Barthes, *Mythologies*, trans. Annette Lavers (New York: Hill and Wang, 1977) 117-18.

on its own, but is always a *relation* between the arrival of a difference and the difference that this arrival makes.

For Heidegger, a literacy with regard to signs is intuitive, not a matter of comprehension as such. Signs are orienting features within the surrounding world: “The sign applies to the circumspection of heedful association in such a way that the circumspection following its direction brings the actual aroundness of the surrounding world into an explicit ‘overview’ in that compliance.”¹⁸ Signs bring the world into view *in that compliance*. The indicative nature of signs means that they are never just relations but types of *equipment*: “...useful things which explicitly bring a totality of useful things to circumspection so that the worldly character of what is at hand makes itself known at the same time.”¹⁹

Heidegger uses the example of a car indicator which, while generally understood as a sign, particularly stands out as a matter of concern for the one indicating and for those in its immediate environment. It announces intentions and directs action.²⁰ In our extensively and intensively designed environments, signs can be understood as indicating a confused cacophony of directions that we learn to negotiate, screening out what doesn’t concern us. We implicitly trust in the directions we are given: design shapes our lives. But design doesn’t necessarily deserve our trust. We need to discern whether the trust we place in things is misguided. The ability to read the designedness of the directions we are given, in their withdrawn condition of orienting, is vital.

In what follows we seek to mobilise semiological methodology to develop our awareness of the designed environment. The image understood as visual sign becomes an *intentionally relational* form of communication. The sign disrupts the apparent immediacy of appearances, installing a metaphorical distance that can help us to *sense* the artificiality of appearances, their

¹⁸ Heidegger, *Being and Time* 74.

¹⁹ Heidegger, *Being and Time* 74. Dreyfus explains Heidegger’s ‘signs’ as a type of equipment: “Heidegger is mainly interested in signs as illuminating the way equipment is what it is only in a context and only when it is actually taken up and used.” Dreyfus, *Being-in-the-World* 100.

²⁰ See on this point Donald Norman’s essay of the same name in *Turn Signals are the Facial Expressions of Automobiles* (Cambridge: Perseus Publishing, 1992) 129.

‘madness’ and thus the possibility of remaking them. Semiological analysis is a potentially powerful and enabling form of cultural observation in a design context.

This is not to suggest we afford a special primacy to the semiological method as a kind of science able to lay design bare. In the framework of ontological design, cultural reading is a critical practice that is always constrained by interpretation and partnered by the problem of making otherwise. As it has been taken up as a tool for analysing and making visual culture, sign theory has been attributed a particular role of unveiling the truth. The central concern of semiology has been defined as understanding the social effect of the meaning of images — conceived as limited, representational systems.²¹ In art and visual design for example, interpretation carries an element of connoisseurship; the skilled reader reveals truths about the image via the quality of aesthetic judgment. There is also a strong tendency in these disciplines to elide the social and political insights of theory in promoting the ascendancy of formal style — to ‘represent’ theory.²² We shall argue that the analytical tendency to reinvest in objects disables political strategies of social change, and further that this is a cultural problem of disciplinary identity. We are interested rather in the sign’s specific effects, its *uses*.²³ The merit of sign theory as a theory of cultural *communication* lies not so much in the ability to discern meanings fixed in the image, but to discern the directions opened up by the image, how the image contributes to the reality of environmental orientation in Heidegger’s terms.

In the genealogy of sign theory is an ambition for the sign that is foreclosed by the culture of its theorisation. Saussure’s dream of the science of

²¹ Gillian Rose, *Visual Methodologies* (London, Thousand Oaks, New Delhi: Sage, 2001) 70.

²² In speaking of the influence of poststructuralism at Cranbrook Academy of Art, Michigan for example, Ellen Lupton and J. Abbott Miller tell us “(t)he response to post-structuralism ... was largely optimistic, side-stepping the pessimism and political critique that permeates the work of Barthes, Foucault and others. (Katherine) McCoy used the architectural theory of Robert Venturi and Denise Scott Brown as a ‘stepping stone’ to post-structuralism, enabling her to merge the Pop appreciation of the commercial vernacular with post-structuralism’s critique of ‘fixed meaning’.” Ellen Lupton and J. Abbott Miller, *Design Writing Research: Writing on Graphic Design* (New York: Kiosk, 1996) 8.

signs as a metatheory turned out to be pre-empted, frustrated and deferred by the discipline of linguistics. The sign posed a deep challenge to linguistics. In our review in the first chapter of this Part we show that the value of sign theory lies as much in its failure to amount to an effective explanatory system as in the potential of its method. Our emphasis is on the destiny of analysis; does our mobilisation of the sign merely defer the metaphysical plenitude that Derrida deconstructs, and insist on closure in any case, or can the sign contribute to our making otherwise and become an effective strategy for relational design?

We then look at the erosion of the sign's potential in the closed discourse of cultural theory that has, in many respects, not moved beyond the representational paradigm. This is a complementary problem to industrial design's cultural blindness toward the material implications of the sign, which will be further explored in Part 4. Next we consider an important destiny of sign theory, the recent rise in popularity of oppositional tactics such as 'culture jamming'. Strategies of visually-based politics are strongly reminiscent of Beck's call to mobilize appearances in a redistribution of responsibilities for hazard production, effecting change through exposure. The structural implications of such political strategies lead us to consider what a more sustainable form of visual communication might be and how 'deep' it should go. In response to these problematics, we ask how sign theory might contribute to the development of cultural sustainability.

²³ This is what Alec McHoul pursues in his *Semiotic Investigations*, discussed below.

CHAPTER 7. WHAT IS ‘THE SIGN’?

“What is the sign?” To this question Jacques Derrida answers, inevitably, ‘presence’.¹ However the sign is also the structure of difference for Derrida. And “(b)y definition, a difference is never in itself a sensible plenitude.”² The structure of the sign breaks open the plenitude of presence even while it aims at a more radical suture. In “Force and Signification”, Derrida distinguishes a difference of *force* from a difference of *form*. And as we shall see, the Saussurean schema for all its potentiality carries the curious lifelessness of the scientific world-view, devoid of a sense of dynamic reality. “(O)ne can glance”, says Derrida “over the totality divested of its forces, even if it is the totality of form and meaning, for what is in question, in this case, is meaning rethought as form; and structure is the *formal* unity of form and meaning.”³ A difference that *makes* a difference refers to the force that vitalises form, the ecological relations that are gathered in the form and sent on by it. The following exposition focuses on how the potential of the sign as a structure of difference, and an explicitly interpretative mechanism, escapes the *whatness* of the image.

¹ “The formal essence of the signified is *presence*, and the privilege of its proximity to the logos as *phonè* is the privilege of presence. This is the inevitable response as soon as one asks: ‘what is the sign?’, that is to say, when one submits the sign to the question of essence, to the ‘*ti esti*.’ The ‘formal essence’ of the sign can only be determined in terms of presence. One cannot get around that response, except by challenging the very form of the question and beginning to think that the sign ‘is’ (sr) that ill-named ‘thing’(sr), the only one, that escapes the instituting question of philosophy: ‘what is...?’” Derrida, *Of Grammatology* 19.

² Derrida, *Of Grammatology* 53.

³ Jacques Derrida, *Writing and Difference*, trans. Alan Bass (Chicago: The University of Chicago Press, 1978) 5.

THE LANGUAGE OF THE SIGN

Although in the United States Peirce founded a tradition of semiotics based on pragmatism — it was Saussure's linguistic theory of semiology and the schema of the sign that became particularly influential in a diversity of European studies of culture from the 1960s.⁴ The structure of Saussure's linguistic sign invited new ways of understanding how the world, in social, psychological and political terms, worked like a language. The evocative analyses of Barthes' early work were marked by a contest between scientifically-oriented structuralism and cultural theory.⁵ It moved from an orthodox development of Saussure's 'science of signs' (*Mythologies*, 1957; *Elements of Semiology*, 1964) to a more self-reflective, interpretative form of critical analysis (*S/Z*, 1970).⁶

A more systemic understanding of structural relations emerged with the cultural theory of Baudrillard (*The System of Objects*, 1968; *The Consumer Society: Myths and Structures*, 1970 and *For a Critique of the Political Economy of the Sign*, 1972) in which the sign departed science and obtained worldly significance and effect. Baudrillard theorized the sign in terms of its powerful work of rendering equivalence. A broader contextual imperative for both these thinkers, as well as many others of the milieu, was cultural Marxism which redrew the political geography in post-World War II French intellectual life. The notion of writing as "the continuation of politics by other means"⁷

⁴ Jonathan Culler notes that in the 1960s "anthropologists, literary critics and others, impressed by the success of linguistics, sought to profit from its methodological insights and found themselves developing the semiological science that Saussure had postulated." Jonathan Culler, *Barthes* (London: HarperCollins, 1990) 70. See also Umberto Eco, "Introduction: Toward a Logic of Culture", *A Theory of Semiotics* 3 – 31.

⁵ Though this contest is perhaps best exemplified by the work of Umberto Eco, who said, "the whole of culture *should* be studied as a communicative phenomenon based on signification systems" Eco, *A Theory of Semiotics* 22.

⁶ It should be noted that Barthes quickly abandoned the project of setting forth the rules of the 'new' science of signs in subsequent work, saying that in the early 60s he had "passed through a euphoric dream of scientificity." He came to see semiology as that which actually undoes linguistic limits — it is a study of how language articulates the world. He later wished to present his semiology as an attention to all aspects of meaning that resist scientific analysis. Barthes quoted in Culler, *Barthes* 73 – 77.

⁷ Philippe Sollers quoted in Terence Hawkes, *Structuralism and Semiotics* (London: Methuen, 1977) 148.

was critical to this milieu, particularly in the context of May 68 and its ultimate failure to create and sustain difference.⁸ The Marxian context was also foundational for the work of English theorist Judith Williamson (*Decoding Advertisements: Ideology and Meaning in Advertising*, 1978), which took up the tradition of demythologising cultural texts as political action. Williamson drew heavily on the anthropology of Claude Lévi-Strauss and his understanding of the relation between structures of language and human belief and behaviour,⁹ and on the Lacanian description of the ways in which ideology, both active and invisible, “works *through* us.”¹⁰ While by no means clearly representative of a kind, moment or location of sign theory, the work of these three thinkers recognised the political agency of the sign.

In response to the growth of semiological material Barthes says “(t)here is at present a kind of demand for semiology, stemming not from the fads of a few scholars, but from the very history of the modern world.”¹¹ This was in 1964. While media literacy is now just an everyday visual sophistication (many semiological decodings of the 60s and 70s now appear somewhat obvious and didactic, if appealingly serious and earnest),¹² Barthes’ observation still has currency — though semiology has not answered this need.

⁸ A foundational point of reference for cultural theory, the student uprising of May 1968, which spread into a nine million strong workers’ strike and eventuated in De Gaulle’s fleeing France only to be returned to Government with a majority soon after, was seen as a break through of the representationalist paradigm that split ‘theory’ and ‘practice’ or the insides from the outsides of the University. Bill Readings notes that a common thread amongst student claims at the time “was a resistance to the imposition of an analogy between the production, distribution, and consumption of *commodities* and the production, distribution, and consumption of *knowledge*.” Bill Readings, *The University in Ruins* (Harvard University Press: Cambridge, Massachusetts and London, 1996) 146.

⁹ For the location of the work of Lévi-Strauss in this history see for example Hawkes, *Structuralism and Semiotics* 32– 58.

¹⁰ For Williamson ‘ideology’ is the ‘invisible cloak’ connecting semiology and psychology. She constructs her central argument about the self-fracturing and reconstituting work of ideology around Lacan’s reworking of ‘consciousness’ in the ‘mirror-phase’. Judith Williamson, *Decoding Advertisements: Ideology and Meaning in Advertising* (New York and London: Marion Boyars, 1983) 41; 60-70.

¹¹ Barthes, *Elements of Semiology* 9.

¹² In her 1982 Preface to a later edition of *Decoding Advertisements*, Judith Williamson suggests that the growing ‘self-consciousness’ of advertisements reflects a popularisation of semiotic skill. She remarks, “many of the formal practices of advertising which in this book I felt I was teasing out as *implicit* in the ads, are now *explicit*. When I talked of ads ‘hollowing out’ a social space and inserting the product in it, I had no idea that Benson and Hedges would

The sign's linguistic inheritance reveals the potential that Barthes identifies as well as the nature of its foreclosure. Saussure's *Course in General Linguistics* projected semiology as a science that would study the life of signs within human society.¹³ His ambition was for semiology to determine the systems of meaning underlying society's heterogeneity of 'non-linguistic' signifying practices: customs, conventions and cultural artifacts — in fact, all aspects of expressive signification or what he called the 'living language'.

As the master-pattern for this greater-though-yet-to-be science, linguistics would classify the mass of semiological data within society. In order to do this, the system of language had to be separated from the processes of speech and writing. It then had to be studied properly, in itself and, as an independent and well-defined system, could be used to establish the laws of semiology.¹⁴ Saussure's system made a series of decisive cuts into language that stood for both its ordering and elevation.¹⁵ The suppression of its phenomenal character particularly appeared to solve many problems. In Saussure's text, language (*langue*) is immutable, holistic, closed to social practices and indifferent to its performance in speech and writing. Language belongs to history. Speech (*parole*) on the other hand is open, many-sided and heterogeneous. Speech is unable to be classified because it belongs both to the individual and to society. For Saussure writing is simply a static representation of speech, completely separate from it and as such is inauthentic and artificial — an illusion that often dupes the speaker and therefore should be excluded from the system of language.¹⁶

soon be using a cigarette packet as a Pyramid or an electric plug...literal manifestations of what I had seen as merely a formal theory." (p. 7).

¹³ We note that the *Course* is a work of interpretation compiled by students from various notes taken during the three courses in linguistics Saussure taught at University of Geneva from 1906-1911.

¹⁴ "(F)rom the very outset we must put both feet on the ground of language and use language as the norm of all other manifestations of speech". Ferdinand de Saussure, *Course in General Linguistics*, trans. Wade Baskin (New York: McGraw Hill, 1966) 9.

¹⁵ Ferdinand de Saussure, *Course in General Linguistics*, trans. Wade Baskin (New York: McGraw Hill, 1966) 111-13.

¹⁶ Saussure, *Course in General Linguistics* 23. For Derrida, Saussure's system hinges on this exclusion of writing. Writing "...sensible matter and artificial exteriority: a 'clothing'

Saussure's system is thus established in terms of an essential bifurcation between speech (and writing) and language. Saussure recognised that at a basic level language *is* present in states of speech. However it is as though the individual agent who writes and uses language also obstructs the view of language in its pure form. Further, while 'the sign' is the basic unit of meaning and communication, a "concrete entity", it also means nothing in itself — its 'value' is only realised in its relation to other signs, in its *difference* from them.¹⁷

Saussure certainly had to make the sign bend over backward to enable communication through these linguistic demarcations. Signification for Saussure was a purely psychological event. Someone hears a sound or reads a word — the sound-image (the signifier) forms a psychological imprint, which is associated with a mental concept or idea (the signified). Communication then entails the complex physiological processes and phonetics of speech, which releases the "inner image" of discourse.¹⁸ The associations between signifiers and signifieds are "deposited in the brain of each member of a community, almost like a dictionary of which identical copies have been distributed to each individual."¹⁹ These associations are neither rational nor open to individual interpretation; they are arbitrary social facts, established via convention across the course of history. This arbitrary nature of the sign is critical in Saussure's system because it protects 'the language' from any attempt by speech and writing to modify it. The language used by the community of speakers is thus also intangible to them. While they have no access to language as an historical force and fact — apart from the identical dictionaries of images they carried about in their heads — they equally seem to be granted no access to their own histories, memories or interpretative agency.

becomes the 'scapegoat' (*pharmakos*) of metaphysical thinking whose exclusion (repression, forgetting) *allows* metaphysical closure." Derrida, *Of Grammatology* 45.

¹⁷ Saussure, *Course in General Linguistics* 102.

¹⁸ Saussure, *Course in General Linguistics* 66.

¹⁹ Saussure, *Course in General Linguistics* 19.

The sign, linearly ordered in this way, brings everything into the same temporal dimension in order to represent the event of signification. The complex relationality of the non-linguistic event, whose unity cannot be discovered because of the infinite nature of linguistic expression, needs the structuring of representation in order to restore what is forgotten and misunderstood in current usage: the concept or idea carried by the sign.²⁰ So out of the mass of ever-changing signifying practices a natural order is extracted that then becomes the tool with which to understand the mass.

The sign was designed as an interpretative mechanism to throw light on signifying practices in society and return them to ‘the language’.²¹ While the sign sought to understand extra-linguistic languages, it always needed to read them in the terms of a strictly ordered and homogenous linguistic system. This curtailed the ability of the sign to move beyond itself to become a means of understanding social signifying practices, which was Saussure’s original ambition. The capability and ambition of the sign exceeded the ground-plan linguistics mapped out for it.

Structuralist semiology, underwritten, as Derrida shows in his reading of Saussure, by the metaphysics of presence and the suppression of the artificial, persisted with its scientific pretensions and thus sustained this self-foreclosure.²² There remained, particularly in the texts of structuralism, a struggle to come up with a way to deal with signifying practices that were extra-linguistic. This problematic is very clear in *Elements of Semiology* where Barthes attempts to push Saussure’s general semiology into a more worldly shape, emphasizing articulation over conceptual correspondence. Barthes introduces a third pre-signifying element to characterise the semiological sign in addition to language and usage; “a matter or substance providing the

²⁰ Saussure, *Course in General Linguistics* 67.

²¹ Saussure, *Course in General Linguistics* 17.

²² Alec McHoul cites as examples the ‘quasi-ethnomethodological’ version of the social semiotics of Michael Halliday (1978) and Robert Hodge and Gunther Kress (1988). He says of this work that the project was “to *attach* a social geometry to a pre-existing Saussurean linguistic geometry — producing an always divided theory rarely able to cope with the

(necessary) support of signification.”²³ Thus it is the process of signification that gives rise to the sign and not the other way around. Even in this early scientific phase, Barthes said signs are everywhere, and they always mediate our relationships with things.²⁴ Considering why it was that semiology had not fulfilled its potential, he observed: “...it is far from certain that in the social life of today there are to be found any extensive system of signs outside human language...though working at the outset on non-linguistic substances, semiology is required, sooner or later, to find language (in the ordinary sense of the term) in its path.”²⁵ What was implied was not that everything is *reducible* to language, but rather the opposite, that language is the very basis of our encounter with the world. In order to understand the nature of the sign, it must be put back into socio-cultural circulation: the signifier and the signified must be made representative of the actual order of signification from which the unity of the sign first arose.

Yet Barthes still insisted on deferring the reality of the semiological sign until it could be exhaustively modelled. He sought to answer Saussure’s demand to break things down, to distribute them correctly, and to determine the internal order of the structure.²⁶ *Elements of Semiology* is a text that documents the struggle between Barthes’ cultural insights and scientific pretensions as he labours to build an accurate simulacrum of signification from the ground up and to discern the rule through the actuality of signification. The paradox in the establishment of a theory of a living language by way of a forceful imposition of structure and the removal of the object from worldly

fundamental idea that semiosis is never *not* social.” Alec McHoul, *Semiotic Investigations* xviii.

²³ Barthes, *Elements of Semiology* 34.

²⁴ Semiological signs arise from everyday usage: “as soon as there is society, every usage is converted into a sign of itself.” Barthes, *Elements of Semiology* 41.

²⁵ Barthes, *Elements of Semiology* 9-10.

²⁶ For Derrida, Barthes submits semiology to a ‘translinguistics’ which “leads to its full explication a linguistics historically dominated by logocentric metaphysics, for which in fact there is not and there should not be ‘any meaning except as named.’” Derrida, *Of Grammatology* 52. Barthes responds to this in his later essay “From Work to Text” in which the security of positions, of both Author and Reader is dismantled: “The Text is ...a passage, an overcrossing; thus it answers not to an interpretation, even a liberal one, but to an explosion, a dissemination” *Image-Music-Text* 155-64.

conditions of signification, was painfully clear. As we have seen, the more forcefully structure imposes itself, the more work it must do to suppress the relationality that unsecures it.

It is precisely this struggle in semiology with insurmountable paradox, with the excessive character of the sign, that shows up the value of Saussure's theory. Poststructuralist theory shows that deconstruction occurs within the heart of the sign structure. In Derrida, the binary sign is a structure of difference, always already provisional. The sign therefore both locates and points a way out of the metaphysics of presence:

Saussurian semiology noted, against tradition, that the signified was inseparable from the signifier, that (they) are the two faces of one and the same production...by desubstantializing at once the signified content and the 'substance of expression'...Saussure contributed greatly to turning against the metaphysical tradition the concept of the sign he borrowed from it.²⁷

In discerning an apparently 'natural' structure, the theory of the sign also opens a view on normative conditions, *denaturalising* them.²⁸ Foucault tells us that Saussure's general semiology itself was a *rediscovery* of the Classical binary structure linking a 'sound-image' to a mental image (concept) as a distinction between signifier and signified.²⁹

The denaturalising capability of semiological analysis is its key value, one that was taken up by Barthes as he began to use sign theory to discover motivated cultural meanings and one that has survived the deconstruction of formalist semiology.³⁰ A theory of language became a potential activity of political significance.

In a recent project that attempts to retrieve semiotics from its retreat into aesthetics, this denaturalising capability of sign theory in relation to

²⁷Derrida quoted in the Translator's Preface to Derrida, *Of Grammatology* 1viii.

²⁸Derrida, *Of Grammatology* 38-39.

²⁹Foucault, *The Order of Things* 67.

cultural situations is demonstrated. Alec McHoul reads the signifying practice of a children's schoolbook primer that describes a normal domestic situation from which the magic and discriminations of fiction have been purportedly erased:

(These homes) speak to us as if they were actual homes, but they are always overneat, overly well lit, well laid out figures of the imaginary. They are just like advertisements in this respect, and they retain something of the politics and ethics of advertising. What they advertise is a model of the modern home. They show that a certain architecture (the children's and the parent's bedrooms being separate, for example) is good; that a certain set of domestic relations is good; that it is normal and expectable for there to be television, good sewers, hot and cold running water, visits by doctors, good and beneficial relations with older generations, plenty of nourishment, no scarcity of basic essentials, gas and electric power, heating and warmth, a roof that doesn't leak.³¹

This reading isolates a powerful process of social induction, bringing into relief a situation uninflected by a Foucauldian cognisance of institutional and architectural power structures.³² It reveals how the schoolbook primer makes redundant other domestic possibilities and invites a condition of comparison: "The classroom is where one both finds oneself and finds oneself wanting."³³

While this might strike the cultural theorist as obvious, it is a disclosure that could hardly be less significant in the domain of industrial realization, which is largely responsible for producing institutional environments and their props. In our world in which design is hidden and the televisual has become the primary instructive feature of the child's environment, I think there is considerable value in this semiological process for design practice.

³⁰ There is a relation here to the movement of the *trace* in Derrida in terms of the 'becoming-unmotivated' movement of naturalisation and the 'becoming-sign' movement of denaturalisation. Derrida, *Of Grammatology* 47.

³¹ McHoul, *Semiotic Investigations* 79.

³² McHoul, *Semiotic Investigations* 77.

³³ McHoul quoting Ian Hunter in *Semiotic Investigations* 83.

THE SEMIOLOGICAL TOOL-BOX

Semiology asks us to distrust our first look, to accept the possibility of the partiality or poverty of what we immediately encounter; it suggests that there is more to what we see than meets the eye.³⁴ It was impatience at the naturalness of designed appearances — the ‘falsely obvious’ — that inspired Barthes’ classic semiological study of mediated *bourgeois* French culture, *Mythologies*.³⁵ In this most famous text, the sign is expanded into a system, given complexity and dimension. The sign becomes a signifier not just of pre-established mental concepts but also of cultural values. In it Barthes applies structural linguistics to the realm of myth to denaturalise the proliferating cultural store of magical/analogical appearances within which a disturbing politics of the natural lurks. Cultural objects are analysed as cultural signs, motivated condensations of ideological positions.³⁶

Williamson, who met with the French structuralist milieu from the outside, developed this project. Like Barthes she was informed by a Marxist critique of the disingenuous ideology of capitalism; she said that signs — in her case the overt forms of advertisements — become *objective* (naturalised) *correlates*: simply “what is”.³⁷ Williamson explains this in terms of the work of ideology, which for her is “the meaning *made necessary* by the conditions of society while helping to *perpetuate* those conditions.”³⁸ Advertisements as ideological signs thus obscure “the real structure of society by replacing class with the distinctions made by the consumption of particular goods”.³⁹

Williamson takes the image very seriously in terms of these ideological effects: they are designed things that require a careful, analytical unpacking. However, as post-structuralist thought has taught us, semiology demands that this unpacked meaning must be returned to presence, reinvested in the object as

³⁴ Barthes, *Mythologies* 118.

³⁵ Barthes, *Mythologies* 11.

³⁶ Barthes, *Mythologies* 122.

³⁷ Williamson, *Decoding Advertisements* 29.

³⁸ Williamson, *Decoding Advertisements* 13.

³⁹ Williamson, *Decoding Advertisements* 13.

its truth. So there is danger in how, why and for whom signification is made, the ways in which redundancy is reached and undecideability denied.

Williamson has been criticised on many counts for her objective approach, her assumption that what she sees is what is actually there.⁴⁰ This issue becomes less significant in design because production is its *modus operandi*. We do not so much wish to question the validity of semiology in its own terms but rather to reclaim an approach capable of breaking open the pervasiveness of design in terms of both the production of things and the induction of habits of interpretation.

So notwithstanding the problematic nature of the structuralist approach, let us open the semiological toolbox to view some of its contents, which can be remobilised in the reading activity of ontological design: *de-sign*. This will point beyond a reinvestment in the image to a designing that can remake with the ‘de-signed’.

Gillian Rose indicates that semiological tools are forms of *description*: “they refer to processes that are not easily described otherwise...(its) neologisms are thus worth persevering with, no matter how clumsy their use might feel initially.”⁴¹ Semiology clearly *wants* to be used. This is particularly the case with Williamson whose work appears driven by a need to establish shareable reading methods to meet the naturalised, shared values of capitalist culture. For her, learning to read signs, to sense the inducting power of everyday appearances, is a political imperative and she likens her decodings to the dismantling of cars for which she has provided a handbook.⁴² This practical orientation was not widely shared by the milieu of theorists of the sign and has not survived the development of the cultural connoisseur. While the tacit objectivism of this form of sign analysis requires careful negotiation, the

⁴⁰ These critiques are cited in below.

⁴¹ Rose provides an excellent exegesis of these tools. Rose, *Visual Methodologies* 69 – 99.

⁴² Williamson, *Decoding Advertisements* 9 -10. Her desire to emphasise the use-ability of her book is reinforced in her preface to the fourth impression, 1982. This emphasis contrasts with the forward projection of the science of semiology, which in Saussure, early Barthes and in the film theory of Christian Metz is always deferred, “scarcely begun” even though they all

ability to unpack the design environment is increasingly important as our material ignorance grows.

A key assumption of semiology is that we can *read* images as texts. This demands a careful and informed looking and suggests that images, so apparently ingenuous and complete, actually entail hard work to understand, precisely because we so quickly think we understand them.⁴³ Semiology mobilises a diverse series of inventive, interpretative devices to assist in this work. While the sign in Saussure is always denotative, always entails a natural, unproblematic and direct association to its signified meaning, in Barthes this relationship is broken up by the second-order dimension of connotative meaning. Connotations are *motivated* cultural associations that pry open the relation between signifier and signified and allow ideology to insinuate and naturalise itself, reworking the denotative content. The methods of assessing the denotative and connotative meanings of images require some kind of diegetic mapping whereby the formal elements of an image are enumerated. In a well-known example from *Mythologies*, Barthes tells us:

I am at the barber's, and a copy of Paris-Match is offered to me. On the cover, a young Negro in French uniform is saluting, with his eyes uplifted, probably fixed on a fold of the tricolour. All this is the *meaning* of the picture. But, whether naively or not, I see very well what it signifies to me: that France is a great Empire, that all her sons, without any colour discrimination, faithfully serve under her flag, and that there is no better answer to the detractors of an alleged colonialism than the zeal shown by this Negro in serving his so-called oppressors.⁴⁴

already speak it. J.Dudley Andrew, *The Major Film Theories* (London and Oxford: Oxford University Press, 1976) 235.

⁴³Christian Metz (*Language and Cinema*, 1971) for example made much of the deceptive formal 'easiness' of the film image, saying, "A film is difficult to explain because it is easy to understand." This set up his semiotics of the cinema the aim of which, after Saussure and Peirce, was a 'science' of cinematic signification. Metz quoted in James Monaco, *How to Read a Film: The Art, Technology, Language, History and Theory of Film and Media* (New York and Oxford: Oxford University Press, 1981) 128.

⁴⁴ Barthes, *Mythologies* 116.

The meaning of the picture in Barthes' terminology is its unequivocal elements — young, male, black soldier, salute, upturned eyes — that the analyst chooses to articulate (what is declared as a denotative element depends on the reader — as Barthes himself shows, what remains unremarkable also remains natural).⁴⁵ The implication is that there is no *work* of recognition involved in discerning denotative elements — they are just literally what is *there*. The second part of the analysis elaborates the connotative elements that Barthes sees. These elements open the 'mythical' system, the dimension of intentional relationships that render the image a questionable text. Connotations are culturally determined. The flag is usually situated above eye level and calls for the act of right-armed salutation. They are also *paradigmatic* in that this image calls on our recognition of the family of images it belongs to in order to read it, and *syntagmatic* — the cover appears as an edited moment in a series of image-choices associated with the magazine *Paris-Match*, declaring its ideological position.⁴⁶ Such semiological mapping feeds these connotations back into the image that we see, making it the destiny of an overt intention: meaning is made, 'cut out' and reinvested in the image.⁴⁷

In the post-structuralist mood of the later *S/Z*, an essay on Balzac's *Sarrasine*, Barthes picks up on the self-concealing loop of analysis by inverting the hierarchical layering of denotation and connotation. The denotative moment becomes the final connotation, the point at which connotation is embedded, naturalised. Thus "denotation is not the first meaning, but pretends to be so; under this illusion, it is ultimately no more than the *last* of the connotations (the one which seems both to establish and close the reading)."⁴⁸ There is never a naturally arising, pre-cultural denotation. But this does not mean that the *idea* of describable, denotative content is extinguished, and in

⁴⁵ Barthes, *Mythologies* 138.

⁴⁶ Barthes, *Mythologies* 138. Though Barthes does not do this, one could persist with the tools in that the image is a *metonymic* sign — the saluting man 'names' for Barthes 'French imperialism' (125) and a *synecdoche* — the saluting man stands for many.

⁴⁷ After Saussure, Barthes says meaning is "above all a cutting out of shapes". Barthes, *Elements of Semiology* 56.

⁴⁸ Roland Barthes, *S/Z*, trans. Richard Miller (New York: Hill and Wang, 1974) 9.

fact the icon continues to secure itself under the representational rule of this idea. This last move of Barthes, the interpretative transformation of denotation back into connotation, is an important one. It is in this movement of symbolic closure that the sign's designing power is revealed.

Semiology clearly had very high ambitions for what appearances make evident, particularly concerning the ideological structures of knowledge as conditions informing the design of meaning. Barthes dissects the apparent transparency of the image by asserting after Marx the *privation of history* entailed by the mythic (ideological) sign. "All that is left for one to do is to enjoy this beautiful object without wondering where it comes from...Nothing is produced, nothing is chosen: all one has to do is to possess these new objects from which all soiling trace of origin or choice has been removed."⁴⁹ This miraculous evaporation of history is but one aspect of image culture that semiology invites us to rework in a design context. We are reminded of the privation that belongs to truth as correctness. In this, and perhaps moving away from Barthes' unsecuring of the hold of history in his later essay "The Death of the Author",⁵⁰ we can say that the image *is authored* by its design history as well as by its readers and that this is part of the matter of the text we need to learn to de-sign.

Semiology also gives the image a *determinacy*. In Barthes for example, everything obtains an interpellant speech, particularly in the system of mass communication, which again poses problems for the semiological prospects of Saussure's divisive categories. The sign offers a *real call* that comes and seeks me out.⁵¹ And even though the message of the ideological call may be contentious, the call itself is not. After Barthes, Williamson borrows Louis Althusser's notion of interpellation to describe the ideological intention of the advertising image in constituting individual subjects.⁵² She quotes Althusser:

⁴⁹ Barthes, *Mythologies* 151.

⁵⁰ Barthes, "The Death of the Author" *Image-Music-Text* 142 - 48.

⁵¹ Barthes, *Mythologies* 125.

⁵² J.G. Merquior writes that Barthes' equation of ideology with interpellation predates Althusser's. Merquior, *From Prague to Paris* 175; 116.

All ideology hails or interpellates concrete individuals as concrete subjects, by the functioning of the category of subject (...) ideology 'acts' or 'functions' in such a way that it 'recruits' subjects among the individuals (it recruits them all) or 'transforms' the individuals into subjects (it transforms them all) by that very precise operation which I have called *interpellation* or hailing, and which can be imagined along the lines of the most commonplace everyday police (or other) hailing: 'Hey, you there!'(...)Assuming that the theoretical scene I have imagined takes place on the street, the hailed individual will turn round. By this (...) he becomes a *subject*. Why? Because he had recognised that the hail was 'really' addressed to him, and that 'it was *really him* who was hailed'.⁵³

Williamson situates this call in the space between the signifier and signified where the individual is invited to become the *creator* of meaning, but only insofar as she/he has been *called upon* to be so; advertisements hail us and invite us to complete ourselves in them.⁵⁴ She says the 'you' in the advertisement is always transmitted as plural but received as singular, thus we are interpellated *en masse*.⁵⁵ Barthes describes the ideological *intention* of the advertising image-assemblage thus: "the text *directs* the reader through the signifieds of the image, causing him to avoid some and receive others; by means of an often subtle dispatching, it remote-controls him towards a meaning chosen in advance."⁵⁶ This directive agency of the sign is constituted not only in its *saying*, but also in its *denying*, its making redundant: the sign assembles things into background and foreground, informing a particular, expressive *gestalt*.⁵⁷

⁵³ Williamson, *Decoding Advertisements* 50.

⁵⁴ The formal invitation here pertains to what Williamson calls after Lacan the 'Ego-Ideal', the impossible (re)unification of the self in the 'Imaginary'. Williamson, *Decoding Advertisements* 65.

⁵⁵ Williamson, *Decoding Advertisements* 42 – 51.

⁵⁶ Barthes, *Image-Music-Text* 40.

⁵⁷ The significance of 'the negative' in the language of the sign, what it holds itself apart from, grows with the move of sign-theory away from formalism. Alec McHoul says for example that for any community of sign users what is 'not-sign' (ie referent) is both securing and mobile, it

This ideological interpellation does not however impose a monoculture or extinguish the individual. It is *taken up* in specific uses and practices. In light of this we might substitute the somewhat monolithic and objectifying view of ‘capitalist culture’ in the semiological discourse for the world in Heidegger’s sense, as a context of shared practical activity.

Critiques levelled at the post-Saussurean semiological method take aim at its radically internal nature, arguing that what it finds are merely the impressions of a privileged observer and thus cannot be extrapolated. The key argument is that formal semiology does not reflect upon its inventiveness.⁵⁸ This is certainly a legacy of its scientific pretensions which preserve the transparency of representation. In Saussure for example, representation is used to show how something works: there is a strong sense that he is merely describing the true process of communication. The reader is being taken *through* a process, rather than learning an *interpretation of* a process, and this sense is also very strong in both the early Barthes and Williamson.⁵⁹

While Saussure recognised that signs do not function in isolation but gain value only in relation to other signs, the method developed in a way that was much more keen on making fully rendered examples than in mobilising a worldly discourse of signs. Saussure gave us a sense of language as it acts upon

is not a ‘universal’ outside-the-space-of-the-sign but orients particular uses at particular times. McHoul *Semiotic Investigations* 55-64 For Baudrillard, the negative is *within* the space of the sign, as that which ‘off-sets’ sign value in environments entirely arranged by the sign. We discuss Baudrillard below.

⁵⁸ Gillian Rose notes that Mieke Bal and Norman Bryson emphasise the need for semiology to reflect upon its own meaning-making tactics. She also cites criticisms levelled at Williamson’s work by W. Leiss, S. Kline and S. Jhally, who raise the question about the *representativeness* of Williamson’s analyses. This of course raises the expectation of precise, semiological ‘rules’. Rose makes the point that Williamson is using particular images to forward a more general argument, not to reveal the ‘truth’ of those images. However one can see that Williamson’s formalism sets up such a demand in the tacit promise of its objectivity. Rose, *Visual Methodologies* 97.

⁵⁹ When Barthes suggests the ideological image anchors a particular kind of perception, his analysis also performs a similar kind of anchorage — though he becomes more self-reflective on his methods, as we saw above. This change is also strongly evident in “Change the Object Itself: Mythology today,” *Image, Music, Text* 165-69. In Williamson the *application* of contravening, politically subversive values to the image is concealed in the formal semiological ‘decoding’.

‘the linguistic community’ who uses it, yet ignored the determinacy of communal use and how this might *act back* on language.⁶⁰

It is this practical context that McHoul’s semiotic investigations focus on. McHoul foregrounds the ambiguity of signs: they are always determinate *and* indeterminate, local *and* historical and pervaded by destabilising relations that decompose the anchorage points of analysis. He says, “Traditionally, semiotics has asked, what is the relation between an expression (signifier) and what it expresses (signified)? What I ask instead is, what is the relation between an expression and its effect?”⁶¹ This shift is significant in terms of an analysis of the signworlds of design, which does not receive enough practical assistance from post-structuralism’s “constant absence”.⁶²

McHoul emphasises meaning as the *effect* of sign-use by communities *for whom they are signs*.⁶³ He argues, “‘sign’ (like ‘event’) is always already an activity, a practice, an action, in play, a carrying through or a living out.”⁶⁴ According to McHoul, each semiological investigation must start anew and in response to a sign that is always both *practical* and *historical*.⁶⁵ ‘Effective’ semiotic investigation must inquire into the practices of specific sign-users, who are situated nonetheless in “a broader social, political, and historical space.”⁶⁶

McHoul’s focus on the effects and uses of different communal and analytical practices creates a space for the possibility and necessity of simple observation of the ‘ontic’ (or ‘what [apparently] is’) within the broader frame

⁶⁰ Barthes pointed out that languages “ (...)are subject to the determination of the community (for example) when new needs are born, following the development of societies” Barthes, *Elements of Semiology* 32.

⁶¹ McHoul, *Semiotic Investigations* xvii.

⁶² Merquior, *From Prague to Paris* 174.

⁶³ McHoul, *Semiotic Investigations* 62.

⁶⁴ McHoul, *Semiotic Investigations* 9.

⁶⁵ McHoul poses an analytical pathway between ethnomethodology and Foucauldian genealogy. This is, he suggests, a more appropriate methodological direction answerable to the micro and macro tendencies in both. “ If we have to work from the available analytic traditions, then effective semiotics might be thought of as a Foucauldian ethnomethodology, or else as an ethnomethodological genealogy. The terms matter less than the idea of a direction for semiotics as it is (necessarily) situated in its own moment of analytic history.”McHoul, *Semiotic Investigations* 86.

⁶⁶ McHoul, *Semiotic Investigations* 85.

of an ontological approach. It challenges both the structuring explanations of formal semiology and the final indeterminacy of poststructuralism. Yet as we shall discuss in the next chapter, McHoul does not take account of the directive power of design in his critique of cultural theory's take-up of the sign. Indeterminacy is decisively eclipsed in my view by the design(ing) of worlding structures and cultural forms, like television, as they function in agreement with the rationalist world-view.

Televsual semiosis, which as Baudrillard indicates plays on a presumption of collectivity, must be engaged at this level.⁶⁷ As cultural observers and participants, it is we who make the symbolic closures that allow for televsual semiosis to flourish. Visual culture calls on us to develop advanced synecdochic abilities, which means that the task of opening structures to indeterminacy is not just competing with visible things but with a broader, ontological tendency toward conceptual closure. As Williamson remarks in a later edition of her book, contemporary visual culture reveals a literal manifestation of what she had previously seen as formal theory. The growing 'self-consciousness' of advertisements reflects for her a popularisation of semiotic skill and a dramatic increase in the internal 'space' of images — the level of actual partiality that can rely on the visual sophistication of observers to complete.⁶⁸

This situation poses another challenge to indeterminacy regarding the destiny of analysis. In McHoul and Barthes it is not clear where analysis travels, how it might for example inform effective decisions, which we argue is a necessity in current conditions in which the naturalised artificial environment

⁶⁷ Baudrillard, *The System of Objects* 178. While McHoul does not speak of the televsual as a source of semiosis, such a common ground is hinted at in his investigation of the photograph of Sarah Burge, a child kept in Barnado's Homes in the 1880s. He comments on its 'film noir' aesthetics, and on the 'deeply striking resemblance' that the image bears to the icon of the popular 1990s stage play 'Les Miserables'. These comments arguably reflect the common culture of us 'sensible viewers' — a point underscored, I think, by my young child's understanding of the photograph as 'dark and scary'. McHoul, *Semiotic Investigations* 19 – 40.

⁶⁸ Gestalt psychology uses the term *Prägnanz* to explain the tendency toward perceiving coherence, for example 'remembering' a broken circle as closed. Gordon, *Theories of Visual Perception* 64 –5. In terms of what we explored in Part 2, this also recalls the unfolding verificationism of televsual recognition.

does not sustain our lives with care. McHoul sets up the project of his book by floating the question of the effectivity of analysis; that it may be of no use to anyone *but* the analyst and that what it might finally make apparent is merely the limits of an empiricist ethics.⁶⁹ One can imagine the later Barthes being comfortable with this, particularly in light of his tendency to attribute, in Merquior's words, 'moral virtue' to the arbitrariness of the sign.⁷⁰ There is an assumption here however that analysis can escape the practical context, that it does not necessarily go on to *make* anything. This is an assumption that ontological design contests when we consider that ideas and books are themselves forms of design(ing). As much as reading is a form of production, the book-thing is a certain *way* of the text, a certain communicative commensurability of idea and thing that can claim to make a difference.

Williamson offers a much more strident project vis-à-vis the provision of analytical *arms*, the destiny of which we explore further when we look at visual political strategies.⁷¹ There is however, in all of these semiological approaches a passing over or evacuation of the designing of the artificial.

While the theory of interpellation gives the sign a distinct kind of agency in both Barthes and Williamson, the artificiality of the sign is expressly *not* its designedness but its ethically contentious, *ideological falseness*; the sign in its uncontested naturalness actually lacks nature.⁷² For Williamson, the significant thing in the sign *is its semiotic structure and only its semiotic structure* — its ability to mobilise the transfer of significance from form to form as per the dictates of capitalism.⁷³ In Williamson and Barthes the

⁶⁹ McHoul, *Semiotic Investigations* xvi.

⁷⁰ Merquior, *From Prague to Paris* 183. He links Barthes to Sartre, saying "...by endowing the arbitrariness of the sign with a fierce 'ethical' temper, by depicting as sinful and impure every meeting (let alone matching) of sign and reference, Barthes was ultimately 'existentializing' the Saussurean view of the sign." 183-84.

⁷¹ At the end of her book Williamson says that the point of semiology is not to change ads, but to change society, that semiology is a matter of a politics. Naomi Klein's *No Logo* also ostensibly takes issue with the 'increasing subtlety of capitalism's ideological processes' and we address her text below. We can compare the strident, Marxian discourse of Williamson to Klein's popularly pitched 'revolutionary' rhetoric to perhaps discern where a politics of visual culture has finally led.

⁷² Barthes, *Mythologies* 142.

⁷³ Williamson, *Decoding Advertisements* 167-68.

advertisement *distorts* reality and thus the semiological project must help to distinguish between the ‘ad world’ and the “real world around the screen and page”;⁷⁴ the image is not as an integral feature of our environments but is an artificial veneer “posted over our urban surroundings.”⁷⁵

The contentious nature of the image is also evident in Barthes’ notion of myth. For Barthes, myth is *depoliticized speech*. He evokes the political as “the whole of human relations in their real, social structure, in their power of making the world.”⁷⁶ So the sign’s speech is very much conceived as an embalming and obscuring of real relations — “man is stopped by myths” — it is not world making like real, political activity.⁷⁷ While Barthes discovers the motivated nature of cultural signs, it is of interest that he sees this motivation as intrinsic to the reality-depleting dangers of myth from which the arbitrary, linguistic sign is protected:

What is disturbing in myth is precisely that its form is motivated. For if there is a ‘health’ of language, it is the arbitrariness of the sign which is its grounding. What is sickening in myth is its resort to a false nature, its superabundance of significant forms, as in these objects that decorate their usefulness with a natural appearance. The will to weigh the signification with the full guarantee of nature causes a kind of nausea: myth is too rich, and what is in excess is precisely its motivation.⁷⁸

This analytical tendency wants to vaporise the intent of the sign with the power of analysis, or rather to invest in it only to the extent of fulfilling a perspective on the object in view. This perspective, the semiological unconcealment of myth *per se*, is attributed significant social and political agency in Williamson — for her this process has the potential to change society.⁷⁹ What people need

⁷⁴ Williamson, *Decoding Advertisements* 11.

⁷⁵ Williamson, *Decoding Advertisements* 11.

⁷⁶ Barthes, *Mythologies* 143.

⁷⁷ Barthes, *Mythologies* 146-55. We are reminded of Levin’s reading of the photograph in and by way of which the primordial play of light is stopped.

⁷⁸ Barthes, *Mythologies* 126.

⁷⁹ The point of *pointing out* “the very real material bases and substructures of images” is to extinguish the false nature of our concert with things. Williamson says at the end of her book: “We re-create ourselves every day, in accordance with an ideology based on property — where

in order to become politicised is the information ‘behind’ the compelling surfaces of everyday life. But as Ellen Lupton and J. Abbott Miller note:

An audience can recognise ‘mythic speech’ as ideological, but recognition does not necessarily defuse the power of the myth. We can consume stereotypes and clichés knowingly, but this knowledge does not preclude the ability of such images to shape beliefs.⁸⁰

As with Levin’s call for empathy toward the plight of televised others, or with Daniel Harris’ elaboration of his material ignorance, what we do with what we know is a complicated business and certainly does not, on its own, automatically engender a difference in behaviour, habit or desire — we are governed by epistemologies that *we know* to be wrong.⁸¹ We have learnt to habitually *ignore* relationality and therefore need to learn to receive new signals in an adaptive way, a way attuned to effecting changes in our habitual ways of living.⁸² This demands an engagement with design.

WHAT BAUDRILLARD DE-SIGNED

While drawing on and learning from Barthes’ insight about the cultural life of signs — that it is through signs that “the environmental world invades the system”⁸³ — Baudrillard’s work contests the reality-depleting tendency of the sign as ‘myth’ or ‘false ideology’. In this his work relates to a crucial Heideggerean observation about signs-in-the-world: “The sign itself can represent what it indicates not only in the sense of replacing it, but in such a way that the sign itself always *is* what is indicated.”⁸⁴ Signs are a form of *concretion* of the indicative ‘in-order-to’ — they both *say* and *are* what they

we are defined by our relationship to things, possessions, rather than to each other.”

Williamson, *Decoding Advertisements* 179.

⁸⁰ Lupton and Miller, *Design Writing Research* 113.

⁸¹ Bateson, *Steps to an Ecology of Mind* 493.

⁸² “Learning denotes change and change denotes process which is itself subject to change.”

Bateson, *Steps to an Ecology of Mind* 283.

⁸³ Barthes, *Elements of Semiology* 91-2.

⁸⁴ Heidegger, *Being and Time* 76-77.

are. Baudrillard's concept of simulation, as we have said, is not a *de-realising* tendency, but rather points to the very *realisation* of the world.⁸⁵

In Baudrillard the sign obtains a cultural agency that is only implicit in the work of Barthes, who, like Williamson, relies on particular, iconic examples where formal analysis fills the sign/icon with the rich content of ideological speech. This process emphasises the discrete nature of the image and effectively disarticulates the complex relational determinations that bring the sign into being. In Baudrillard, the sign moves beyond itself as the primary unit of structuralism and becomes the means of a critical analysis of structures. The sign both conditions networks of communication and exists within them: it both *explains* and is *embodied in* cultural forms.⁸⁶ It is sign value — the rhetoric of appearance and designed references — that becomes the very mediatory principle of the social. The worldly, social life of signs — the object of Saussure's original ambition — is directly theorised in a way that formal semiology could never approach.

The sign, born of structuralism, now has its own post-structural life — it is a thing that *worlds*, that enters into the political economy of exchange.⁸⁷ By giving the sign volition — by mobilising it as constitutive of society through the process of collusive, cultural circulation (intended acts of exchange), Baudrillard also opened the way for an *unintended* series of exchanges. The sign *economy* — the exchange of signs *as* signs — gives way to the emergence of a sign *ecology* — the unintended consequences and effects of this exchange.

Baudrillard's critics, particularly those inflected with an ecological consciousness, tend to miss this challenge in his sign theory. He is accused of idealism and symbolic reductionism particularly in relation to his later work

⁸⁵ Butler, *Jean Baudrillard* 23-4.

⁸⁶ For Baudrillard “*the structure of the sign is at the very heart of the commodity form.*” Baudrillard, *For a Critique of the Political Economy of the Sign*, 146.

⁸⁷ As we mentioned in Part 1, Baudrillard marks an actual point of departure for this economy with the Bauhaus, which produced not ‘things’ but ‘functional objects’ as calculi of signification. Baudrillard, “Design and Environment” 186.

where real objects and environments give way to images.⁸⁸ From our perspective this is somewhat of a misreading of Baudrillard's radical approach to material culture. Baudrillard's work in fact grounds semiology's atomistic idealism.⁸⁹ While he himself later abandons this project, his work suggests that what is needed is a materialist account of idealised culture. In Baudrillard the sign does not simply show, it *designates*.⁹⁰ This is supported by comments made by Charles Levin who suggests that Baudrillard proposes "a phenomenology of structuralism itself."⁹¹ He says Baudrillard "attempts to shift the stance of critical theory by understanding the social, in its totality, as emphatically mediated by the predominant forms of its own self-understanding."⁹² This project, reminiscent of Bateson, gestures towards a cultural theory of design that potentially does away with the binary structure still very much ruling in concealment in design theory's materialist 'turn' from the Platonism, which we discussed Part 1.

We do not here seek to justify Baudrillard's project in ecological terms. What we want to suggest is that Baudrillard has 'de-signed' the sign in such a way as to make it possible to understand it ecologically – that is, in its condition of relationality. It is not the total coherence of his arguments, nor where they eventually lead, but how his ideas enable understanding in a practical context that is important.⁹³

⁸⁸ M. Gottdiener for example, contextualises Baudrillard as a promising postmodern thinker who lost his way by following in the 'idealist' tradition and as such is guilty of 'symbolic reductionism.' Gottdiener, *Postmodern Semiotics* 24-5.

⁸⁹ In his book on Baudrillard, Rex Butler locates the attempt to follow both the logic of idealism and its problem as precisely the authenticity and novelty of Baudrillard's thought. Rex Butler, *Jean Baudrillard*.

⁹⁰ In Heidegger, this power of the sign relates to the transformation of the essence of 'truth' by way of which the sign is altered from that which *shows* to that which *designates*. Heidegger, *Basic Writings* 402.

"What unfolds essentially in language is saying as pointing. Its showing does not culminate in a system of signs. Rather all signs arise from a showing in whose realm and for whose purposes they can be signs." Heidegger, *Basic Writings* 410.

⁹¹ Baudrillard, *For a Critique of the Political Economy of the Sign* 11.

⁹² Baudrillard, *For a Critique of the Political Economy of the Sign* 21.

⁹³ Thus the risk of not reading Baudrillard 'in his own terms', which Butler insists is necessary. Butler's reading simulates the paradox of the sign, which, he argues, Baudrillard encounters after the *System of Objects* and thereafter cannot forget. The down-side of this recognition is the trap of analysis that cannot but follow the groove of the logic it has discovered.

For Baudrillard the crucial thing is that the carefully preserved separation of sign and world is a fiction. This implicates the fictionality of everything otherworldly in Saussure's schema that came to trouble Barthes, including in particular the indifferent *equivalence* of the two sides of the sign binary and the *unidirectionality* of the sign's unfolding, as well as the *tabula rasa* upon which psychological impressions are formed. Yet at the same time it complicates the very notion of the fictional. The forgotten/assumed referent in both Saussure and the early Barthes becomes in Baudrillard the *effect* of the sign. It is the sign that is actual, an "operational structure."⁹⁴

The process of signification is not just motivated, as it is for Barthes, by the signifier — the visible or audible form of the sign — it *absorbs* the signified. Therefore it is the *form* of the sign, not its content or concept that does the communicating. The signified and referent work together in the process of signification to provide what Baudrillard calls a substantive alibi — content for the sign.⁹⁵ The idea here is that sign value (which belongs to form) is sustained by the *effect of reality* borrowed from the correlation of the signified and the referent. This is how the sign obtains authenticity. He says:

(l)ike the sign-form, the commodity is a code managing the exchange of values. It makes little difference whether the contents of material production or the immaterial contents of signification are involved; it is the code that is determinant: the rules of the interplay of signifiers and exchange value.⁹⁶

The matter of the world is not hidden or attenuated by the sign, but rather the sign *elaborates* the world, directs it and makes it speak.

In this light, each product of design is an incremental instance of a broader televisual orientation towards the declarative and verifiable — cultural

⁹⁴“The sign is an operational structure that lends itself to a structural manipulation compared with which the quantitative mystery of surplus value appears inoffensive.” Jean Baudrillard, *The Mirror of Production*, trans. by Mark Poster (St. Louis: Telos Press, 1975) 122.

⁹⁵ The notion of the semiological alibi is raised by Barthes in relation to myth. However the ‘perpetual’ alibi of myth and the ‘constantly moving turnstile’ of connotation gives way here to a more substantive notion of the sign-form. Barthes, *Mythologies* 123.

⁹⁶ Baudrillard, *For a Critique of the Political Economy of the Sign* 146.

values they are made to speak and locate. The telegenic product, a manifestation of the symbolic management of value, registers itself as a kind of normative individual — to recall Barthes on the fashion system — *designed* to display its canonic generality in spite of the particularity of its material presence.⁹⁷

Baudrillard's first book, *The System of Objects*, teaches us to hear this particular speech of things and to chart their flight from the instrumental/technological to cultural systems.⁹⁸ The sign assembles the designed (and designing) disposition of products and environments.⁹⁹ The sign/world transformation is a result of the work of design, a work squarely shared by humans and things, and that constantly shifts between technical and cultural scenes.

This is a radical reinterpretation of the sign's agency and is supported by Heidegger's understanding of the interpenetration of language, things and worlds. In the main however, the sign is reduced to the domain of language and mental imagery while the intractable meaning of the material world outside the space of the sign is secured.

This position is exemplified by the theory of product semantics, the study of meaning in design, which elevates and reveres the *eidōs* as evidence of design knowledge.¹⁰⁰ Klaus Krippendorff, probably its leading proponent, goes to great lengths to disassociate product semantics from the sign and its ambiguous, fluid, referential character. For him, a semiotic approach to design encourages products that further emphasise a division between sign and world.

⁹⁷ "...the language of fashion must here be inferred from a pseudo-real garment, and on the other, the wearer of the garment (the photographed model) is, so to speak, a normative individual, chosen for her canonic generality, and who consequently represents a 'speech' which is fixed and devoid of all combinative freedom." Barthes, *Elements of Semiology* 27.

⁹⁸ Baudrillard, *The System of Objects* 8.

⁹⁹ This is something that is taken up in the semiotic study of machines in the work of Madeleine Akrich and Bruno Latour, which we have cited elsewhere.

¹⁰⁰ Product semantics arrived via the take up of semiology in architecture, such as was studied at the New Bauhaus at Ulm from the late 60s. The most influential text in English on architecture and semiotics at the time was Charles Jencks and George Baird (eds) *Meaning in Architecture* (New York: Braziller, 1969).

Such products “hide their operation behind unrelated facades” or “deceive users with fake symbolisms” suggesting capabilities that are not there.¹⁰¹ He says “this kind of semiotization of material culture alienates people from participation in the real world”.¹⁰²

For Krippendorff form follows the identification of meaning; the designer must seek to understand the cognitive context of projected users and *embody these authentic meanings in the object*. Good semantic design is, he says, “simply self-evident”, a transparent form of communication.¹⁰³ This directive reduces the being of the designed and manufactured object to a merely symbolic presence far more comprehensively than does semiotics, whilst it also streamlines the user to a very limited set of concerns.

Design needs a theory of the sign that is able to recognise the interpenetration of language and world and the relationality of meaning. Madeleine Akrich and Bruno Latour for example understand semiotics as a study of ‘path building’ that can be applied to machines, bodies or texts and that moves from “signs to things and back.”¹⁰⁴ This approach has a precursor in Baudrillard, for whom things do not represent but *become* representational, ideology becomes “practical”.¹⁰⁵ While the system is (in)visibly relational, objects absorb relationality by way of their rhetorical claims. Baudrillard mythologises this, suggesting that relationality has been extinguished and has had to be designed back in from a situation of digital exclusion. He says:

So what is consummated and consumed is never the object but the relationship itself, signified yet absent, simultaneously included and excluded; it is the *idea of the relationship* that is consumed in the series of objects that displays it. The relationship is no longer directly

¹⁰¹ Klaus Krippendorff, “On the Essential Contexts of Artifacts”, *The Idea of Design*, eds. Victor Margolin and Richard Buchanan 166.

¹⁰² Klaus Krippendorff, “On the Essential Contexts of Artifacts” 158.

¹⁰³ Klaus Krippendorff, “On the Essential Contexts of Artifacts” 166.

¹⁰⁴ Akrich and Latour “A Summary of Convenient Vocabulary for the Semiotics of Human and Nonhuman Assemblies” 259.

¹⁰⁵ Baudrillard, *The System of Objects* 10.

experienced: it has become abstract, been abolished, been transformed into a sign-object, and thus consumed.¹⁰⁶

The connotative whims of the sign become concrete and denotative, and the rhetoric of the object is now the feigning of relationality in its gestures toward interfacing with human ‘consumers’. So this rhetoric of relationship conceals that things actually operate under the assumption of their objective independence.

The object that absorbs and re-works relationality, and which is thereafter naturalised under an assumed denotative function, demands a particular understanding from its human users. As more and more objects entirely depend for example on the standing reserve of electrical power and its earth wrenching infrastructure, at the same time they become ever more substantially rhetorical, denotatively ‘stand-alone’. Baudrillard says:

(...) no sooner do we lose sight of the route taken by energy, feel energy to be intrinsic to the object, become the non-responsible beneficiaries of an absence (or near absence) of any need for gesture and physical effort, then we are surely justified in believing — indeed are obliged to believe — in an absolute and limitless functionality, in efficacy as the virtue of signs.¹⁰⁷

Baudrillard gives us many astute examples of this semiotic reproduction. Looking at car tail fins, perhaps (his critical gaze oriented often enough at the spectacle of ‘America’) at some designed by one of the first car stylists General Motors’ Harley Earle — who coaxed metal into behaving like the clay curves he made in his studio — Baudrillard remarks that:

The car’s fins became the sign of victory over space — and they were purely a sign, because they bore no direct relationship to that victory (indeed if anything they ran counter to it, tending as they did to make vehicles both heavier and more cumbersome)(...)Tail fins were a sign not of real speed but of a sublime, measureless speed. They suggested a

¹⁰⁶ Baudrillard, *The System of Objects* 201.

¹⁰⁷ Baudrillard, *The System of Objects* 57.

miraculous automatism, a sort of grace. It was the presence of these fins that in our imagination propelled the car, which, thanks to them, seemed to fly along of its own accord, after the fashion of higher organism.¹⁰⁸

And it is this sublime speed, this simulation of space-time transformation, that directs not only the design of the car, but the culture of use associated with it: driving becomes a logical expression of this design.¹⁰⁹ As McLuhan's commented, in the age of human extension by design, "we actually live mythically."¹¹⁰

The speech of sign value, which now becomes positivised, iconic, is also a kind of referentially universal or monocultural speech. Baudrillard says "(t)he coherence of the functional system of objects depends upon the fact that these objects — along with their various properties, such as colour, form and so on — no longer have any value of their own, but merely a universal value as signs."¹¹¹ Thus a new form of environmentality is forged upon the atomistic sign value of things, in which, as Butler explains:

(...) the system precedes the possibility of any single object, the series which produces the uniqueness of any particular model. And similarly, we as consumers do not so much directly desire any specific object as desire only in a competitive relationship with others (as mediated by such things as status and prestige). We desire only another's desire.¹¹²

What Baudrillard de-signs is the *effect* of the decoupling of productivism from materialist values, opening a view on the collusive relation between capital and sign. The understanding and agency of the human user vis-à-vis his or her

¹⁰⁸ Baudrillard, *The System of Objects* 59.

¹⁰⁹ Baudrillard, *The System of Objects* 65-69.

¹¹⁰ McLuhan, *Understanding Media* 4.

¹¹¹ Baudrillard, *The System of Objects* 64.

¹¹² Butler, *Jean Baudrillard* 27.

designed environments is diminished, and we are rendered dysfunctional, becoming the open signifier of design intention.¹¹³

While the Marxian analysis of the domination of capitalist exchange value and the fetishism of objects forms the basis of his critique, the impact of the overwhelming mediatory power of the sign in the political economy of exchange, raises questions as to the literal relevance of Marx's thought in the contemporary product environment. When Marx was writing in the nineteenth century the function and technology of the sign had not yet developed as a tool of commodification, particularly as consciously mobilized by design. In Marx, exchange value *suppressed* the denotative use value invested in products "soaked in labour".¹¹⁴ In Baudrillard however, material (that is both the materiality of objects and of 'real human needs') and use value are actually *induced* by sign value, become functions, and we can no longer reach the natural value of things.¹¹⁵

Use value as functionality is a sign: rhetorical content. Sign value *calls upon* our need to acquire some thing of a particular function, thus (designed) desire and things appear to arise simultaneously. Conversely, a wasted thing is divested not of potential usefulness but rather of sign currency: it becomes refuse of desire. The material thing without a perceived future is destined for infertility.¹¹⁶

To recall our discussion of Winograd and Flores' case study of ontological design in Part 1, the breakdown provides an opportunity for

¹¹³ Baudrillard, *The System of Objects* 57. The ontological effect Baudrillard finds, in light of the psycho-sexual *timbre* of his text, is one that travels in the direction of the *suppression* of instinctual drives, a 'moral refusal of the instinctual'. We read this in another direction, in terms of the *production* of ways of desiring and doing things. Baudrillard, *The System of Objects* 62.

¹¹⁴ Marx quoted in Scarry, *The Body in Pain* 247.

¹¹⁵ Baudrillard explicates the designed-ness of need in "The Ideological Genesis of Needs" (1969). He writes "consumption does not arise from an objective need of the consumer, a final intention of the subject towards the object; rather, there is social production, in a system of exchange, of a material of differences, a code of significations and invidious (*statuaire*) values. The functionality of goods and individual needs only follows on this, adjusting itself to, rationalizing, and in the same stroke repressing these fundamental structural mechanisms." Baudrillard, *For a Critique of the Political Economy of the Sign* 75.

¹¹⁶ Tony Fry, *Green Desires: Ecology, Design, Products*, (Sydney: EcoDesign Foundation, 1992) 11.

innovation (both at the level of the object and the culture of use it promotes) that is overlooked by the concern of the user for functional delivery. With the designation ‘waste’ there is a quite amazing material transformation that concurs with Baudrillard’s charting of the flight between instrumental and cultural systems. Waste is a cultural, rather than a material category.¹¹⁷ In the food hall of any shopping centre we can observe a disappearing act taking place — virgin food packaging leaves the counters for the hands of consumers who throw them into the huge rubbish skips circulating the tables.¹¹⁸ Moments before, these very same material items — which will take scores of years to decompose in landfill — were a critical symbolic element in the exchange of food for money and the discourse in hygiene, quality and service it entails. On the other hand, the practice of leaving unwanted products on the street for perusal by passers-by, has the effect of placing a question mark over the materials, leaving them open for reconversion into usefulness. Waste is simply matter out of place.¹¹⁹

The sign entails a “whole labour of disassociation” and a remobilisation of ‘environment’ in the delimited terms of its own logic.¹²⁰ Baudrillard says of the now ambient sign “(e)verything has to intercommunicate, everything has to be functional — no more secrets, no more mysteries, everything is organised, therefore everything is clear.”¹²¹ The way of things, so seemingly open is actually strictly circumscribed. Baudrillard’s analysis shows up contemporary circumstances in which the ‘abyss of ignorance’ directly *enables* rather than disables lifestyles. We operate undisturbed by our ignorance and under the assumption that we are agents of ‘free choice’ in a designed and designing environment. In these conditions in which sign-forms are allowed to regenerate without ostensible cause or consequence, it is the (re)invention of *denotation* or

¹¹⁷ See *Waste not Waste*, eds. Tony Fry and Anne-Marie Willis (Sydney: EcoDesign Foundation, 1997).

¹¹⁸ The planned ‘death’ or built-in obsolescence of products was brought to public attention by Vance Packard in *The Waste Makers* (Harmondsworth: Penguin Books, 1963).

¹¹⁹ See Fry and Willis eds. *Waste not Waste*. I consider the problem of ‘telegenic waste’ in this collection (27-45).

¹²⁰ Baudrillard, “Design and Environment” 187.

descriptive content that a theoretically informed design practice might invest in. This task can be seen as one of intervention as the ‘text’ must first be opened in terms of being relationally impoverished, which is not something we normally ‘see’.¹²²

Ezio Manzini learned from Baudrillard that while something might be here before us and could not possibly be more objectively present, it is at the same time quite often materially if not semiotically *indeterminate*. As he suggests, even the name ‘plastic’ is a kind of euphemism for ignorance. There are numerous examples of everyday encounter with things in which we defer the decision of care (us of them and them of us) to the sign: “(a)n object is now made of what it seems to be, and of the performances which it offers.”... “(If one were to recognise the surface of a table as being made of ‘wood’, it meant that one could also predict its behaviour, its rate of aging, its reaction to fire, the maximum acceptable load, and so on.”¹²³ It is therefore, as Manzini tells us, the *intelligibility* rather than the *reality* of things that is increasingly at stake.¹²⁴ And it is this *lack of intelligibility*, in terms of material, historical, culturally directive relations, which constitutes the contestable reality of the image.

Baudrillard challenges us to see this designing power in the image; while the image in semiology appears as the reification and concentration of all that is *not* real, all that needs to be seen *through*, it has this material effectivity. The challenge is not to struggle to see what meaning the image hides — as we have already seen meaning is not inside things but is always already *relational* — but rather to detect in the sign this materially transformative possibility.

We might look to Baudrillard’s later book *Simulations* (1983) — which marks for some his ostensible departure from reality — to emphasise this insight into the designing impetus of the sign.¹²⁵ In “The Precession of Simulacra” Baudrillard utilises the relation between map and territory to

¹²¹ Baudrillard, *The System of Objects* 29.

¹²² We make this intervention in Part 4.

¹²³ Manzini, *The Material of Invention* 31 –2.

¹²⁴ In a comment recalling Beck, Manzini says “Memory, experience, and intuition no longer help.” Manzini *The Material of Invention* 31.

¹²⁵ For example Verena Andermatt Conley. We address her critique below.

illustrate the fictional division between sign and world. In this text the sign legitimates the real world at the same time as the real world is established by the sign. This correlative legitimation is no simple reversal, as Baudrillard shows. Simulacra — sign forms — *precede* the real world, determining our relation to what is encountered in the same way as the map precedes the territory. I read the following passage as an explication of design agency:

Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory — PRECESSION OF SIMULACRA — it is the map that engenders the territory and if we were to revive the fable today, it would be the territory whose shreds are slowly rotting across the map. It is the real, not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire, but of our own. The desert of the real itself.¹²⁶

It is this notion of the real disappearing that so bothers some theorists.

Baudrillard seems to be suggesting that the real is replaced by the simulacrum, the world ‘consumed’ by the image. And thus when the world *does* appear to be calculatively organised, coerced to behave in a particular way, the ‘truth’ of Baudrillard’s sign theory is most strongly felt.¹²⁷ Everything loses spontaneity, becomes design. If Baudrillard suggests that signifieds no longer exist or that there is no “exo-semiotic” material, this does not mean however that there is no ‘real’.¹²⁸

¹²⁶ Jean Baudrillard, *Simulations 2*.

¹²⁷ For example in Andrew Ross’s account of the public reaction to the televised war in the Persian Gulf. He writes “Everyone seemed to become a media critic. Many even became Baudrillardians without knowing it, repelled by everyone else’s (and never their own) fascination with the simulacra of war cooked up by the Pentagon and the networks (a simulated aerial view of Baghdad from an F-111 pilot’s perspective — who would not want to see that?).” Ross, “The Ecology of Images” 216.

¹²⁸ In his materialist critique of the post-*System of Objects* Baudrillard, Gottdiener implies that Baudrillard suggests precisely this. He says, “As in the case of Barthes, something happens to

In his book on Baudrillard, Butler shows that there is another interpretation of simulation and of Baudrillard's entire project. For Butler, Baudrillard does not abandon reality, as many of his critics assert, but in fact his entire work is a defence of it.¹²⁹ Simulation is not an attenuation of the real, but the bringing to reality of the real. Baudrillard is trying to show an *operational* rather than representational real, a real from which the 'naïve charm' of representation has been extinguished.¹³⁰ And here Baudrillard can be seen in light of the systems theory we have explored, in which the system is *operationally* closed but structurally open *at the same time*. This is what Baudrillard means by simulation: simulation brings the world into being, it operates, it is world-making. The 'desert of the real' that is 'our own' refers to the unintelligible surface(s) of the everyday. Baudrillard here marks the simulacrum with the operative ignorance of productivism. This also concurs with Luhmann but also with Beck, in that the sign is the *actual*, is what literally makes sense when so much of the world is and is made (in)visible.

Following this, I read Baudrillard's version of the truth of simulacra instead as a de-sign tool, as a way to read the 'becoming-natural' of the designed world. It is the (in)visible at work here, the vestiges of the real are the relational irruptions of ecological effect that design works so hard to suppress. The map/simulacrum is not merely benignly inauthentic. The simulacrum as a designed thing that 'thinks' it follows the real is attended by an entire and distinctive aesthetics of transparency, lightness, thinness, false perfection, not only 'unreal' but with reality-depleting capabilities. These are however

Baudrillard in the 1960s, and he moves to a deconstructionist position, not because of the critique of Saussure, as in the former case, but because of an extreme vision about the commodification of daily life under new conditions termed 'postmodern'".

Gottdiener, *Postmodern Semiotics* 48.

¹²⁹ Butler suggests that 'the real' is constituted in Baudrillard's refusal to forget the paradox of the sign: "We speak of a certain paradox of the sign as what Baudrillard means by the real, a real that Baudrillard cannot entirely rationalise insofar as he himself is subject to it...it is only through the attempt to be systematic that we can show what cannot be systematised, just as with the systems that Baudrillard analyses it is only through understanding them as completely representing the world that he can show what they cannot represent." Butler, *Jean Baudrillard* 20.

¹³⁰ "Something has disappeared: the sovereign difference between (the map and territory) that was the abstraction's charm." Baudrillard, *Simulations* 3.

ecological matters: designed things — simulacra — are, as Fry's theory of defuturing shows, indeed capable of depleting the future of reality. Baudrillard takes on the point of view of the simulacrum vis-à-vis 'the real'.¹³¹ The poverty and destructive capability of the simulacrum are measures therefore of the 'self-understanding' and agency of the simulacrum itself. The domination of sign value does not indicate the closure of materiality or a disregard for it, but its dangerous (in)visibility. The danger subsists in the generation of simulacra, which re-install the representational 'difference' — the 'charm of the real.'¹³²

This is not how cultural theory in the main, and particularly in ecologically informed circles, read Baudrillard. For Verena Andermatt Conley, Baudrillard moves from a nascent critique of environmental damage in his early analysis of the political economy of signs and objects to a version of the real that merely perpetrates the illusory separation between systems of signs and nature.¹³³ For Conley, Baudrillard's operational sign is divested of environmental relations because he fails to critically emerge from the seductive logic he has discovered. By *Simulations* she argues, Baudrillard "carries his readers off into a world of simulacra that leaves matter far behind."¹³⁴ Her critique is intent on discerning this critical irresponsibility in Baudrillard; the tendency to dwell on the 'sanitised and aseptic' world of simulacra and a concurrent style of analysis that relinquishes the intervention of responsibility: his *persiflage*.¹³⁵

While Conley does have a point about the provocative play of Baudrillard's work — which we will take up in relation to his dwelling in the simulated environment of cultural theory — her critique is circumscribed by its

¹³¹ This might also be heard in Baudrillard's explication of the designing of Bauhaus functionalism as 'puritanical' and 'ascetic'. Baudrillard, "Design and Environment" 192.

¹³² Baudrillard, *Simulations* 3.

¹³³ Verena Andermatt Conley, *Ecopolitics: The Environment in Poststructuralist Thought* (London and New York: Routledge, 1997) 28.

¹³⁴ Andermatt Conley, *Ecopolitics* 29.

¹³⁵ Andermatt Conley accuses Baudrillard of *persiflage*, "an untranslatable substantive that connotes everything so disgustingly arrogant and even castrated about French salon culture in which Parisian intellectuals draw attention to their voluble, if indeed real, argumentative brilliance that leaves the environment out of sight and out of mind." Andermatt Conley, *Ecopolitics* 2.

own bifurcation of the ingenuous real of ‘the environment’ from the simulacra which forecloses upon the ecological life of the image. She says:

The ‘real’ world is much farther from Baudrillard’s pen than he would like us to believe. He does not begin with real facts or detail, with concrete objects or the type of thinking they require, as do biologists, botanists, cartographers, feminists and ecologists.¹³⁶

Conley sees the real world as a mess of material relations, of ‘different ecological speeds’ and directions, visceral effects and physical events: “Every order is but a temporary configuration coming out of disorder that is forever off balance.”¹³⁷ In her eyes, Baudrillard relinquishes this world in favour of that of the ‘limpid, clean’, ‘dream-world’ of simulacra: “When models generate simulacra they detach from a referent; they break off from the physical world itself and become autonomous.”¹³⁸ Conley’s suspicion as to the ‘predictive models’ Baudrillard employs does not see the view he opens on the predication of ecologies by the image. For Conley, Baudrillard has simply turned away from the environment and its material exchanges.

The ‘autonomy’ of the simulacrum in Baudrillard is not merely provocative, but indicates the operational reality of the designed thing, the *thinging* of simulacra, which is blithely indifferent to relationality. This analysis can be discerned even in his more ‘materialist’ works between 1968 - 72. In ‘writing off’ Baudrillard on the basis of his failure to constitute an explicit environmental destiny in his work, Conley misses the opportunity to bring his ideas to bear on the cultural determination of designed environments.

Finally, Baudrillard’s abandonment of a certain “style and spirit of analysis” does not have to be ours. In fact to forget Baudrillard is to assume the representationalist perspective of environmental discourse (which gives the environment an identity that can be recognised in advance), as well as to abandon the design agency of ideas. An environmental analysis responding to

¹³⁶ Andermatt Conley, *Ecopolitics* 38.

¹³⁷ Andermatt Conley, *Ecopolitics* 36.

¹³⁸ Andermatt Conley, *Ecopolitics* 30.

the agency of the sign — made manifest for example in the technologies of simulation that so seduced Baudrillard — is there to be taken up, which we do in Part 4.

If we are to engage with Conley's critique — and we must since it detects an important foreclosure in Baudrillard's work — then it needs to be in terms of the analytical culture that circumscribes his work, and cultural theory more broadly. In these terms Baudrillard has not lost touch with 'the real world' so much as lost interest in speaking to it in political terms. The culture of analysis sustains and encourages precisely the kind of cultural fascination that Conley finds so abhorrent and irresponsible, and reinvests in it. Cultural theory has simulated a culture of aestheticism that relies on the detachment of representational objectivism. Baudrillard's ostensible 'shift to idealism' can be thought in terms of his absorption by a culture that has *encouraged him* to lose sight of the dangerous (in)visibility of simulacra, a culture his sign theory could precisely contest as an ecological effect of the image.

CHAPTER 8. SIGN/CULTURE

In this chapter we elaborate the failure of cultural theory to develop an *effectively* critical reading of the signworlds it is, nonetheless, particularly capable of discerning. First, we look at an essay by Andrew Ross entitled “The Ecology of Images”. This essay exemplifies for me what is most promising and frustrating about cultural theory and the acute, non-transferable nature of its ‘vision’. We then turn to Alec McHoul’s critique of cultural studies in order to think through the limits and opportunities of an internal critique of representationalism. Both these theorists, like Baudrillard, can be characterised as attempting to read the sign beyond the limits of the representational paradigm and thus help to articulate the problems and opportunities of the cultural theoretical approach.

THE EFFECT OF CULTURAL THEORY

Andrew Ross is a cultural theorist whose work over the last fifteen years has been consistently informed by ecological issues.¹ In “The Ecology of Images” he approaches the televisual event with a series of observations that place ecology both inside and outside the frame of the image. This essay opens the question of the ecological relationality of the image and yet ends up being unable to resist enlisting its cohering force. Ross reinvests his exposure of the limitations of representation in a representational paradigm, which affirms the aesthetic destiny of his work and undermines its political potential.²

¹ See for example Andrew Ross, *Strange Weather: Culture, Science and Technology in the Age of Limits* (London and New York: Verso, 1991); Andrew Ross ed. *No Sweat: Fashion, Free Trade, and the Rights of Garment Workers* (London: Verso, 1997).

² The title of the book this essay is later published in firmly establishes this destiny: *Visual Culture: Images and Interpretations* eds. Norman Bryson, Michael Ann Holly and Keith Moxley (Hanover: University of New England for Wesleyan University Press, 1994).

The Gulf war in the early 90s was the first war embedded in the media and as such brought home the powerfully ambiguous productivity of the televisual.³ Yet while it was televised, the images that Western audience *did* see — which were compared to a Nintendo game — packaged the war in way that required substantial translation.⁴ This made it an important moment for cultural theory and criticism, providing it with an opportunity for a counter-cultural role in generating transparency through semiotic analysis. In “The Ecology of Images” Ross considers the ecology of image production and consumption underscored by the military-industrial-media complex: “(We) cannot forget” he says, “that the nightly firework display in the Gulf skies and the spectacle of laser-guided smart bombs homing in on their targets were also an explicitly seductive advertisement for another thirty years of the permanent war economy, sustained by the uninterrupted flow of cheap fossil fuels.”⁵

Ross shows how certain iconic images were made to present the war to a public whose vision of ‘actual’ on-the-ground warring was curtailed.⁶ The image of the Kuwaiti oil slick spilling into the Gulf, for example, embodied “(oily) Arab treachery, whether it signified the dark, inscrutable evil of Saddam Hussein or the sinister, inexorable spread of Islam.”⁷ The slick served, Ross explains, as a target for the US air-force to remake itself as an ‘eco-warrior’ waging war against eco-terrorism, in spite of the military’s status at home as the biggest polluter in the world’s biggest polluting country.⁸ Ross also writes about the image that effectively ‘branded’ the Gulf war — the burning oil wells. He identifies the considerable ecological damage inflicted by this event to the desert, which itself functions often enough as a metaphor of nothingness and abandonment. In his analysis Ross reveals the visceral and ecological

³ Ross notes that Virilio’s *War and Cinema* was highly prescient of the Gulf War. “In Virilio’s history, the camera is a material participant in the apparatus of destruction.” “The Ecology of Images” 227. The televised war was also a particularly provocative example of simulation. See Jean Baudrillard, *The Gulf War did not Take Place*, trans. Paul Patton (Sydney: Power Publications, 1995).

⁴ Ross, “The Ecology of Images” 215.

⁵ Ross, “The Ecology of Images” 216.

⁶ Ross, “The Ecology of Images” 217.

⁷ Ross, “The Ecology of Images” 217.

realities concealed in and by the image and helps us to see these images not merely as *memoria* — which is certainly the emphasis of Werner Herzog's film on the visual aftermath of the war — but as signs of ecological *causality*. Ross ambitiously calls for a green cultural criticism in response to the ecological effects of images:

At the start of a decade that will play host to a green cultural criticism, redirecting attention to the suppressed (at least in the last twenty years of cultural theory) 'nature' side of the nature/culture equation, nothing seems more important than to debate the ecological role and character of images; not only the use of images to tell ecological stories, but also the ecology of the image industry itself, considered in all aspects of production, distribution and consumption.⁹

He goes some way to inaugurating such a project in his discussion of the ecological underside of the image industry and its use and dispersal of photochemicals and other toxins, material resources, energy, landmass, and, we might add, the production of biophysical and semiotic 'waste'.¹⁰ However, a promising materialist critique of the image gives way to his main argument that calls for the 'democratic' availability of uncensored information. Thus what is asserted as ecologically destructive and culturally coercive on the one hand, is seen as cultural 'food' on the other.

This tendency to rest one's faith in the 'good' of communication is what Baudrillard calls a kind of cybernetic idealism: in certain cases it would seem possible that only the *use* value of the sign is retained. He says: "The eternal humanist metaphor (is) the more signs there are, the more messages and information there are, the more one communicates — the better it is... Now we have cybernetic idealism, blind faith in radiating information, mystique of information services and the media."¹¹

⁸ Ross, "The Ecology of Images" 218.

⁹ Ross, "The Ecology of Images" 219.

¹⁰ Ross, "The Ecology of Images" 226-27.

¹¹ Baudrillard, "Design and Environment" 199. This problematic tendency in Ross' argument is underscored in his reading of 'blockbuster' movies upon which he overlays the

In fact Ross puts a fair amount of effort into saving the image from a materialist critique, suggesting that because images are not ‘things’, consumption of them is of a different order than the consumption of material market goods.¹² This position is problematised by the precession of sign value in the product market and, as we have seen, can ultimately be undone with a careful consideration of the materiality, infrastructure, design history and afterimage of the icon, which clearly reveals the sign in its material denotative dimensions. But the limits of the image are always a matter of interpretation. In a comment that resonates somewhat with the position of environmentalism vis-à-vis the image, Ross says:

Ideas and images are constitutive of the world in ways that can counter their role as technological recruits in the war against environmental reality. And that is why a discussion of the ecology of images (...) must make room for some understanding of the role played by images of ecology (...) In short, images of ecology are also produced, consumed, and used in ways that can help to counteract the destruction of the natural world.¹³

In making room for representation, for an ecological project for the image, without folding this back into the question of the representability of ecology *that he himself has raised*, Ross selectively disavows the (in)visible relationality of the ecology of images. This reveals an odd blindspot in his approach. As with Conley, there is an assumption about the nature of ecology and materialism undisturbed by the concrete artificiality of our naturalised

environmental lexicon of industrial culture. He abhors the ways in which Hollywood ‘recycles’ old narratives and events in a ‘conservatism’ that “runs directly counter to the ecological spirit of preserving and encouraging diversity. The results more and more resemble an image monoculture.”(225). To this he adds the ‘extinction’ of the cultural ‘diversity’ represented by art houses and revival cinemas, and speaks of the technological ‘obsolescence’ of special effects driven movies.

¹² He says: “If it makes any sense at all to talk about the image ‘waste stream’, then our own position as consumers within the watershed of the stream, is quite different from our position in the material, consumer product waste stream. Images can be used, and reused, in ways that most consumer goods cannot.” Ross, “The Ecology of Images” 226. We address the question of ‘thingliness’ in Part 4.

¹³ Ross, “The Ecology of Images” 228.

world. Ross misses the transformative relationship between immaterial and material environments. In this respect Ross' ecology of images, with its focus on the schema of production and consumption, lacks an *operational* perspective.

This selective materialism is, I think, an issue of the discipline within which he is operating, in which the complex relationality of symbolic, cultural and biophysical ecologies remains somewhat at arm's length. We might here recall some remarks of Barthes in relation to the practical limits of 'mythology': "Justified by the political dimension, the mythologist is still at a distance from it. His speech is a metalanguage, it 'acts' nothing; at most it unveils — or does it? To whom? His task always remains ambiguous, hampered by its ethical origin."¹⁴ The cultural theorist is "condemned", albeit comfortably, to metalanguage. Ross' ecology of images is indelibly attached to images themselves. It is as though his foresight extends only as far as the horizon of the image-event itself.¹⁵

In the context of his political invocations, this problem is striking. Yet in the context of cultural theory it is expectable that Ross' essay reaches its denouement in the images, plot and characters of contemporary environmentally-themed films, which thereby become the uncannily apt destiny and summation of his entire argument. This is how he chooses to finally brand his analyses: with an Arnold Schwarzenegger film and the "ecological camp" of director David Lynch.¹⁶ If he mobilises these examples to

¹⁴ Barthes, *Mythologies* 156. "The mechanic, the engineer, even the user, 'speak the object'; but the mythologist is condemned to metalanguage." (158-59). Barthes calls here for a 'reconciliation' or synthesis between description and explanation. We will see in the next Part that it is rather the continual negotiation of the passage from 'text to thing and from thing to text' that constitutes design and holds apart the resolution Barthes here desires.

¹⁵ The culturally appropriate nature of the impacts he selects to see, also affirms both the special insights and non-implication of the theorist: "Cinephiles, archivists, and media critics have long been horrified by the scandalous lack of conservationism within the film and TV industry: the studios' throwaway attitude toward film prints (the melt-down of Erich von Stroheim's *Greed* for thirty cents of silver nitrate is the mythical horror story par excellence), the instant obsolescence of TV film, and the cavalier decisions about the use of capital and resources that that are made in pursuit of the final cut." Ross, "The Ecology of Images" 226.

¹⁶ Ross says his essay would 'not be complete' without the example of the television series *Twin Peaks* (1990-91), directed by Lynch, which he reads as "a commentary about environmental and ecological questions". Ross, "The Ecology of Images" 234.

reveal the irrelevance of disciplinary closures, then the structure of his argument conceals this intent. Like the perfect formalist analysis, the image ends up profiting from its own deconstruction. We can also see that this analysis is destined to remain rhetorical, even when directed at ecological questions, as they are ultimately curtailed by a restricted economy of the image that has *a priori* relinquished its ecological agency.

In light of Ross' analytical return home to the image, one might ask how his proposed green cultural criticism, his difference-making ecology of images is going to emerge?¹⁷ While no less necessary, more than a decade later Ross' call for an ecologically-oriented critical practice still seems ambitious and raises questions about the effectivity of cultural theory. Here we have a domain of thought rich with possibilities for exposing alternative views of the world picture. But what do we do with our newly acquired insights into the meaning of images? Our literacy of visual culture is honed, but we have no project, no critical burden, no sense of how to put this reading into effect. The effect of the critique is the sustainment of the object in view. Our reading is not called upon to intervene in the material it analyses nor in the analytical culture it is part of. What can we do but read on, ultimately profiting from the worsening ecological effects of the culture of representation? Reinvesting in the image takes the interpretative agency out of the hands of the reader/researcher who might otherwise be encouraged to develop their own tools for the reinvention of cultural 'signifieds'. Ross' analyses show why there is a need for cultural theory in a televisual environment. Yet for this need to be appropriately met, cultural theory clearly needs to reinvent a political destiny for itself.

'CULTURE' BEYOND REPRESENTATION

It is the *use* of signs that characterizes McHoul's semiotics and distinguishes his work from the tendency in cultural theory toward aesthetics. For McHoul, it is not the analytical culture *per se* but rather the monolithic

¹⁷ Ross, "The Ecology of Images" 223.

notion of culture itself — as a sign in its own right — that sustains representationalism in the cultural disciplines. Culture as a sign has a strong element of normativity about it, which means it is used to not only account for human practices but also to prescribe them.¹⁸ Culture in this sense is akin to ideology in the semiology we have reviewed, supporting a kind of indiscriminate opportunism, concealing itself in what it names as other.

McHoul explains:

(A)Most all hitherto existing theories of culture have started out from representationalist premises. That is, they treat cultures, cultural objects and events as remorselessly representational of something else; as representing something more fundamentally present than themselves, something outside themselves, something more primary still: the ‘real’ phenomena that make culture, by contrast, always epiphenomenal.¹⁹

This observation affirms Heidegger’s comments in “The Age of the World Picture”, that human activity conceived and consummated as ‘culture’ is an explicitly modern phenomenon and a *realisation* of humanist values.²⁰

For McHoul, the birth of the discipline of cultural studies — premised with the best of political and social intentions on the demarcation of a new, Marxist foundation for the analysis of cultural affairs — backfired as culture obtained this reified, monolithic status. The discipline, which emerged in part from a theorisation of a relation between culture and economy, had the effect

¹⁸ McHoul, *Semiotic Investigations* 47. The practice of cultural planning, for example, tends to reify culture in the production of public ‘places’ for cultural activities. The representationalist disposition can be shown with reference to one cultural planner who suggests that ‘local colour and identity’ are often not adequately represented (in a development’s design) and because of this “the special needs and dreams of unrepresented or marginal groups are not addressed.” Marla Guppy, “Communities, Environments and Cultural Identity” *Places not Spaces* (Sydney: Envirobook, 1995). I connect the reifying tendency in planning to the theory of the ‘world picture’ in “Designing the Ground: The Infrastructure of Productivism.”

¹⁹ Alec McHoul, “The Being of Culture, Beyond Representation.” 20 pages <www.murdoch.edu.au/~mchoul/being.html>. The paper is no longer accessible at this web address. It was slated for publication in *Continuum: Journal of Media and Cultural Studies* 12.2 (1998): 233-242, but this did not eventuate. It is listed on McHoul’s homepage under publications at www.mcc.murdoch.edu.au and is available from the author. A similar argument is presented in terms of the spectacularisation of the everyday in Toby Miller and Alec McHoul, *Popular Culture and Everyday Life* (London: Sage, 1998).

²⁰ Heidegger, “The Age of the World Picture” 116.

of reifying both and further, of reinscribing culture into the domain of aesthetics from which it had sought to release itself.²¹ Culture became an ur-term that opened up the world as a limitless source of objects of analysis. But:

(...) instead of an analysis of signs, we get a kind of creative writing...(a)nalyzing signs in terms of their cultural locations means, effectively, returning them to their 'authenticity', which then takes on the position of another essence or center. The concept of 'culture' can be so broad, then, that almost anything can be placed within it.²²

Raymond Williams identifies a distinction in his etymological history between the independent and abstract noun 'culture' as a sign of aesthetic development, and its early uses as a noun of located process in agricultural cultivation.²³ Williams notes that in modern usage "the idea of a general process of intellectual, spiritual and aesthetic development was applied and effectively transferred to the works and practices which represent and sustain it."²⁴ In light of their inclusive inclination, the identity of the cultural disciplines depends on this transference to objects. As Heidegger suggests, the politics of culture is to nurture itself.²⁵ For Williams as for McHoul, culture begs context — its meanings are deeply connected to usage. Without a focus on the context of usage, McHoul argues that "culture is only ever dead on arrival, corpse not corp(u)s".²⁶ We can hear in this the kind of finality exemplified in the collection, store and exhibition of artefacts as they pass from cultural life to encapsulated history. In the flourishing of the 'ur-term', usage as a concern inevitably retreats, as does the possibility of the object's

²¹ McHoul refers here to the establishment in the 70s of the Birmingham Centre for Contemporary Cultural Studies. The Centre sought to take the analysis of cultural affairs "out of the hands of English Departments, appreciationism, aestheticism." McHoul, *Semiotic Investigations* 43. It has been pointed out to me by Tony Fry (who spent five years at the CCCS) that the development of Cultural Studies was far more diverse and conflictual than this view suggests, not least between those who were setting out to constitute a new discipline and those striving to make a counter-hegemonic practice.

²² McHoul, *Semiotic Investigations* 44.

²³ Raymond Williams, *Keywords* (London: Fontana Paperbacks, 1983) 87.

²⁴ Williams, *Keywords* 90.

²⁵ "It lies in the essence of culture...to nurture itself in its turn and thus to become the politics of culture." Heidegger, "The Age of the World Picture" 116.

ongoingness, or, to put it into the Derridean lexicon favoured by McHoul, its ‘becoming’.

This goes some way to explaining the problem with the object-orientated ‘groove’ of cultural analysis, which is merely augmented by the structuring operation of the mass media. Luhmann reminds us:

Without mass media culture would not be recognisable as culture. And the fact that this reflexive culture, this culture which knows itself as culture, produces its counter-conceptuality of ‘authenticity’, ‘actualness’, ‘sponteneity’ etc., just serves to confirm that what is involved here is a universal phenomenon which includes self-reference (...) Particular experiences and communications only become culture by being offered as signs of culture, and it is this that goes back to the institutionalisation of second-order observation in the system of the mass media.²⁷

In a pervasively televisual environment of finished forms and meanings we can understand McHoul’s desire to relinquish the notion of culture in favour of thinking through signs in terms of the specific practices of certain *communities* of sign-users. He says ‘community’ “...may be the concept with which an effective semiotics handles the space around the sign, its framing.”²⁸ The sign in these circumstances functions as a meaning-for-now rather than as an objective truth.

Certainly, the life and specificity of human practices are not representable in objects. Cultural artefacts are not just components *of* a broader culture, the result or end of cultural activity (which the museumification of culture tends to communicate) but have a located cultural agency all of their own. And neither are practices simply born amongst people; they emerge from habitual engagements with designed things that script via their sign value and ‘affordances’ (or cues associated with the product interface), particular *cultures*

²⁶ McHoul, “The Being of Culture, Beyond Representation” 13.

²⁷ Luhmann, *Reality of the Mass Media* 86.

²⁸ McHoul, *Semiotic Investigations* 52.

of use.²⁹ In fact, the anticipation of use in modern technological products is the hallmark of ‘good’ technical design.

In this respect, design calls for an analytical practice that can respond to the relational assemblage of the encountered product as it calls upon situated usage and signals the conditions for its ongoingness. The singular disposition of the designed thing has an orientating power as it meets the variable nature of the existing designed world. It has its own cultural propensity set by the interpretations of its makers and the conditions informing them.

In many cases one can see that design has a critical role in orienting communal practices. Consider the take-up of mobile technology by school children travelling out of sight of the concerned eyes of parents whose vision is surely inflected by televisual fears. In such a situation design is far from being merely a benign object, open to the decisions of the community. Rather, the community is captured by design, held by its powerful structuring of communication.

In relinquishing culture, McHoul overlooks the common ground of televisual semiosis and does not merit the role of simulacra — designed things — that put culture as a monolithic abstraction into specific places and practices, sometimes with a quite literal levelling power.³⁰ He thus misses the important agency of design’s designing, by way of which the structuring of representation circumscribes what he calls the ‘broader social, political, and historical space’ occupied by communities of sign users. Design has fundamentally redetermined this ‘broad space’, so that cultural understandings of the sites of political discourse and action have become subject to decisive closures. In this sense, the cultures of design precede ‘community’ and demand to be read as such.

²⁹ On the concept of product affordances, see Donald Norman, *The Design of Everyday Things*. Norman borrows this concept from J.J Gibson’s theory of visual perception. For more on this, see footnote 49, chapter 2 above.

³⁰ The development of environments for cultural activity is an example (see footnote 18 above).

Far from being understood as the very ecology of the environment of human dwelling — what is manifestly and potentially shared between people including attitudes, ideas, things and experiences — the mobilization of culture in much cultural theory, as McHoul argues, assists in sustaining the representationalist premise, and demarcating ever more firmly a non-relational, politically exhausted domain that nonetheless plays hosts to ‘everything’.³¹ In the current climate of unsustainability, in which systems of design speak at ecological cross-purposes, we want to retain the sign ‘culture’ — which in our view is at once more broad and possessed of a less humanistic cast than ‘community’ — to reference the specificity of our general televisual conditions as they are lived and shared. In this we do not seek to reify culture in things, to pin them down with pseudo-anthropological intent, as much as to consider the cultural quality of reification. When Heidegger said “for us today ‘ideas’ are worthless if they are not realised”, he identified a problem of the metaphysical trajectory but also a *condition* that needs to be understood and negotiated.³²

Designed things are active culture makers, specific articulations of the televisual inclination of the ‘official culture’ of our Western, late-modern world. They produce and affirm culture. As we seek to denaturalise this culture dominated on the one hand by the (in)visibility of the televisual and on the other by the burgeoning materialism of the sign, there is a need to acknowledge that what we have in common is perhaps more what we have learnt to ignore

³¹Readings, *The University in Ruins* 17. Readings uses the term ‘dereferentialization’ to speak of the process whereby ‘culture’ is emptied of specific meaning and is therefore freed up to mean anything. For Readings, this process marks the University’s loss of a cultural function.

³²Heidegger, *Basic Questions of Philosophy* 63.

rather than what we consciously share. Design brings us together.³³ We do not yet have a cultural theory that can appropriately accommodate and respond to the materiality and agency of design.

³³ Aidan Davison provides an apt image of this when he describes the diversity of passengers who might become grouped together on a plane: "...each these days, liberated from the other, as much as from the earth beneath them, by the marvels of autonomous multimedia in-house entertainment systems repeated in every seat." Davison, *Technology and the Contested Meanings of Sustainability* 131. The design of the modern plane is perhaps one of the most explicit examples of designed-in environmental ignorance.

CHAPTER 9. SIGNWORLDS

“Humanist” neo-functionalism has no chance when faced with operational metadesign. The era of function and of the signified has revolved, the era of the signifier and the code is beginning. (Jean Baudrillard)¹

The challenge for cultural theory is how to make the interference it creates resonate *outside* its own culture, in the world in which the autopoietic proliferation of autonomous things, things that instigate forgetting, escape the effect of theorisation. The almost uncanny transference of theoretical models such as the sign into real world examples and the related popularization of semiotic skill — which took Williamson by surprise — is a function of televisual designing, and indicates an ostensible political opportunity for cultural theory to move beyond its representational limits.

We have considered the sign as a matter of perception and, via Baudrillard, the sign’s agency in transforming experiences of material culture in a designed environment. In this chapter we consider the question of what would constitute an effective political strategy in this “era of the signifier”? We look at semio-literate political strategies that consciously attempt to mobilize the sign as a cultural change agent in a world in which sign value precedes economic value. These practices acknowledge the concealed complexity of industrial culture and thus bear a relation to Beck’s call for strategic interventions that mobilize aspects of modern industrial society against itself.

¹ Baudrillard, “Design and Environment” 198.

We first look at the strategy of culture jamming and consider the effectivity of its form of political communication. Culture jamming is acutely aware of the conditioning features of context and usage; it exploits a generalised semiotic literacy to expose the cultural domination of the image in its own language. A far less sophisticated take on the efficacy of visual communication is found in the project of communicating sustainability. As we have seen, environmentalism relies heavily on the transparency and radiance of media images. Here we consider the role of signs in reducing the macro-perception of the environment to the order of the product. In our object-filled yet (in)visible conditions, we consider the validity of simulating sustainability, of designing into being a sustainable brand or identity that can carry different cultures of use into effect. Under what conditions would such a strategy be useful in the context of pro-duct design: could it appropriately negotiate the impossibility of reducing the (in)visible to the visible, or would it merely be another attempt to defeat this (in)visible?

CULTURE JAMMING: ACTIVISM AND AESTHETICS

We have established that the ‘thousands of cultural details’ that make up our naturalised environments need de-signing. One key extension of the purview of the semiological project, which might be seen as an attempt at a wide scale de-signing, is the practice of culture jamming. Culture jamming constitutes itself as an *actual* political unveiling, a way of breaking through the (in)visible.² It is also a re-branding strategy, a semiotic practice that infiltrates the indexical potential of the sign to expose, rather than conceal, its ideological intentions. There are thus few better examples than culture jamming — what journalist Naomi Klein calls “semiotic Robin Hoodism” — to test the limits and possibilities of re-negotiating the visible in its own terms.³

Aesthetic activists see the image as the sole locus of political efficacy in a world in which there are no longer countries and cultural difference as such,

² Vis-à-vis semiology, Williamson certainly sees her project in this light. Things are a little more ambiguous, as we have seen, for Barthes.

³ Naomi Klein, *No Logo* (London: Flamingo, 2000) 280.

but rather multi-million dollar brands.⁴ While their rhetoric is full of revolutionary references to taking down corporate giants and building new cultures on the ruins of the old, it is a war conceived at the level of the image and waged in the realm of the idea.⁵ The advantages of this interpretation of the dematerialised political arena are numerous. If an action is the same as a perceived action, as Beck maintains, and if an ‘effect-explosion’ can be generated by the strategic placement of single acts, then there is a significant reduction in the need for a critical mass and the hardware to serve it.

Aesthetic activism has an historical forebear in the performance art of the Situationists, who were declared ‘muses’ of the student eruptions of May 1968 in which the effective crossing of the idea from theory to practice was enacted.⁶ In its dialectical re-mobilisation of fragments of televisual culture, culture jamming draws on what the Situationists called a *détournement* — “a perspective-jarring turnabout in your everyday life.”⁷ Contemporary jammers reuse the iconography and phraseology of corporate culture to generate this turnabout, creating new, critically reflexive signs in public loci that aim to disturb, where possible, the verificationism willed by branded environments.

For Klein “(a) good jam... is an X-ray of the subconscious of an (ad) campaign, uncovering not an opposite meaning but the deeper truth hiding beneath the layers of advertising euphemisms.”⁸ While such a statement is reminiscent of Williamson and the capability she sought to motivate in her readers, there is a major difference. Williamson did not see *the image* as the site of the expression of a radicalized politics.

The culture jam is meant to cause a moment of intractable reality for the observer, a shock or insight that breaks through the smooth operativity of

⁴ Kalle Lasn, *Culture Jam: How to Reverse America's Suicidal Consumer Binge — and Why We Must* (New York: Quill, 2000) xii. As I was researching this material, I caught a snippet of a radio program on multinational companies in which Finland was described in matter-of-fact tones as “nothing without Nokia”.

⁵ As an example of this rhetoric, Lasn dedicates his book to his “mortal enemy, Philip Morris Inc., which I vow to take down.” Lasn, *Culture Jam*.

⁶ For more on the context of May 68 see footnote 8, chapter 7 above.

⁷ Lasn, *Culture Jam* xvii.

⁸ Klein, *No Logo* 281-2.

consumer culture, a little like the Barthesian ‘punctum’.⁹ However this moment of truth (which Kalle Lasn, founder of the culture jamming group Adbusters Media Foundation, likens to Buddha’s glimpsing of the real world through the palace walls), does not involve the confusion, the tearing pain or struggle of ontological reorientation.¹⁰ As a glimpse, a twist in the fabric of culture, the jam places an inordinate emphasis on visual revelation. The belief Lasn expresses is that from such glimpses insight will grow, building upon itself until at a certain point of exposure we are released into a “free, authentic life” from which the image has been evicted.¹¹

Writing twenty years after his influential *The Society of the Spectacle* (1967) was first published, Guy Debord explains that the book was written “with the deliberate intention of doing harm to spectacular society”.¹² In what now reads more like a series of media-ready sound-bites than a “revolutionary user’s manual”¹³ — a perception not discouraged by the new Bruce Mau/Zone Books styled edition — Debord conceives of the sign as a different order of reality to the world, and yet as it stakes its claim upon the truly real, “manifests itself as an enormous positivity, out of reach and beyond dispute.”¹⁴ For Debord, the spectacle is the “celebration of a choice *already made* in the sphere of production, and the consummate result of that choice.”¹⁵ That is, it is the

⁹ Barthes introduces this idea in *Camera Lucida: Reflections on Photography*, trans. R. Howard (London: Jonathan Cape, 1982). The implication that there are aspects of a photograph that are beyond signification, has been criticised by some theorists. However what is missed in this critique is the relationality of the event — it is not some *thing* in the photograph that is substantively *different* to its other aspects, rather there is an event of meaning that takes place between the image and the observer. The ‘punctum’ can be seen as an experience of the force of relationality. For critique see Rose, *Visual Methodologies* 83.

¹⁰ Lasn, *Culture Jam* 108.

¹¹ Lasn, *Culture Jam* 182. Lasn’s revolutionary ambition for culture jamming to bring the ‘image factory to a sudden, shuddering halt’ is lampooned by Klein even as she elaborates a similar destiny for the as yet invisible, but building global front of anti-corporate opposition. Klein, *No Logo* 295.

¹² Guy Debord, *The Society of the Spectacle*, trans. Donald Nicholson-Smith (New York: Zone Books, 1994) 10. Debord reflected on this book in the late 80s in *Comments on the Society of the Spectacle*, trans. Malcom Imrie (New York: Verso, 1991). In this book he redefines the spectacle as that which is capable of both concentrated and diffused form. This notion of the ‘integrated’ spectacle aligns with the image-as-infrastructure argument that Klein proposes.

¹³ Mau, *Life Style* 129.

¹⁴ Debord, *The Society of the Spectacle* 14-15.

¹⁵ Debord, *The Society of the Spectacle* 13.

celebration of design over freedom. In this, the spectacle “manifests the essence of all ideological systems: the impoverishment, enslavement and negation of real life.”¹⁶ We have argued that ontological design offers a better explanation of this coercive force than does the idealist epistemology, for which the image depletes reality by vacuuming meaning from the world. However the idealist understanding of the image constitutes an important theoretical basis for the ‘new’ forms of aesthetic activism, and as such merits serious consideration.

In spite of this relation to the Situationists, Naomi Klein — whose book *No Logo* (2000) popularised the thesis of world branding — tries to decisively remove contemporary activism from the realm of aesthetics and the tag of “transcendent art”.¹⁷ No more paint hurling tactics, but extreme, media-savvy hacking and strategic appropriations of the corporate voice. No more Dada-like manoeuvres and ‘happenings’ but planned, electronically serviced groupings resulting in the insistent repetition of spectacular ‘G-8’ protests. Foregoing the Situationist rhetoric of profitless activity, it is the assertoric format of the image that is called upon to represent and empower a culture of difference. In her book, an image of global resistance meets head-on and dismantles the iconic brand, which has grown fat on its reality-grazing. Yet this obviation of the aesthetic conceals an unequivocal return to an embedded idealism on whose ground the radicality of opposition is enabled.

No Logo is a powerful exposition of the structural disingenuousness of multinational brands. In new, hollowed-out companies, Klein explains, a pseudo-Platonic revolution has taken place; the brand as idea has taken centre-stage, unencumbered by the material constraints of production. This material burden is now taken up by the faceless ‘B2B’ contractors and sub-contractors, home-workers and manufacturers in the Philippines, China, Mexico, Indonesia and Australia, who vie — now as legally independent agents exercising their ‘free-choice’ rather than as workers for Nike or Country Road — to produce

¹⁶ Debord, *The Society of the Spectacle* 151.

¹⁷ Debord, *The Society of the Spectacle* 136.

brand content at ever cheaper prices.¹⁸ This structural erasure allows the corporations, as mere designers, marketers and ‘ideas’ people, to conceal the worlds their signs assemble and to make claims such as “Apple does not have any chemicals intensive manufacturing operations.” Because their ‘manufacturing operations’ are symbolically reduced to final assembly, Apple is disburdened of the manufacture, for example, of the virgin plastics they use in all of their computers. What better example of the destructive ecological consequences of the worlding of sign value than the erasure of productive infrastructure in the ascendancy of the brand?

Klein’s analyses effectively portray corporate culture’s dependence on relentless symbolic detoxification. However rather than considering how the productive issue of a corporation actually carries this hidden news, she relinquishes the design agency of the product altogether. It becomes mere stuff, the benign issue of corporate behaviour and can even be consumed without contradiction.¹⁹ For Klein, it is the inexorable spread of the image, exemplified by the hollow brand, which must be subjected to political contestation.

One of Klein’s key examples of the new strategies of world branding is the Disney sponsored town of Celebration in Florida. This is a fully-fledged small American town, which Klein describes as a three dimensional brand that you can pack up, move into and slam the door behind you. Klein characterises Celebration as a “brand cocoon”, a hyperreal simulation of a pre-Disneyfied world replete with the very unbranded and now nostalgia-tinged public spaces that Disney has so voraciously digested everywhere else.²⁰ Real life is the brand content and the brand itself the cultural infrastructure. For Klein this tendency spells the end of advertising for the ultimate goal has been reached,

¹⁸ Klein, *No Logo* 21-6.

¹⁹ “...you can like the products and not like the corporate behaviour; because the corporate behaviour is a political issue and the products are just stuff.” Klein interviewed in Katherine Viner, “Hand-to-brand Combat”, *Sydney Morning Herald Good Weekend* November 11, 2000 71.

the image has gone underground, the brand has become ‘life itself.’²¹ Such a neat example of the hyperreal carries its own critique, and as such has found its way into other sites. An image of Celebration opens the Bruce Mau Design Studio’s anthology, *Lifestyle* (2002), as a sign of the book’s critical stance in relation to the “regime of the image” of which it is so clearly a part.²²

Corporate ethnographic researchers or ‘cool hunters’ have developed expertise in pre-empting aspects of cultural protest for marketing ends.²³ Iconic examples of symbolic detoxification, such as the exposure of the garment industry’s reliance on sweat shops — the humanist appeal of which effected considerable though momentary retail re-direction in the mid-90s — is now so ubiquitous that the located horror of its incremental events have become reabsorbed by televisual culture.²⁴ The effect is of rhetorical generalisation and foreclosure rather than of sustained and focused dissent.

In spite of Klein’s strategic use of the past tense in relation to the cultural power of product corporations, it is clear they can handle such exposure and even turn it to their advantage. As a problem is exposed and shaped, the corporation is handed a manageable alienation of their perceived irresponsibility, allowing them to more accurately rework the cultural fit of

²⁰ From Klein’s 2001 Sydney lecture broadcast on ABC Radio National *Media Report* 17th January 2002. In *No Logo* (149) Klein characterises Disney as the first ‘brand’ in this new, global mode.

²¹ Klein, *No Logo* 155.

²² *Lifestyle* is a large, heavy, hugely materially intensive book/object covered in a series of ‘limited edition,’ fabric covers including hot pink satin and red brocade. It is meant to communicate a notion of ‘preciousness’ borrowed not from a conservative aesthetic, but from the art object, which the design of the book’s largely repetitive, 600 odd full colour pages reveals. Ironically, then, the book’s ‘thud effect’ resounds merely with rhetorical substance.

²³ The co-option of oppositional tactics is the theme of a documentary lauded by Klein, *Merchants of Cool*, which traces the ways in which multi-national corporations mine ‘true’ culture in a range of anthropological practices, in order to reproduce it for sale. *Merchants of Cool*, produced by Douglas Rushkoff and Rachel Dretzin and directed by Barak Goodman, aired on SBS television 17th July, 2001.

²⁴ The ‘cops’ in a North American television show pause in a sports store in the midst of investigating a crime to discuss the profit margin of sneakers at the expense of ‘sweatshop’ workers. What workers, where? Klein details several horrifying stories, like that of the production of the Nike shoe in *No Logo* 365-79. She also tells us of the organisation ‘Sweatshop Watch’, whose president, Lora Jo Foo says this issue “is so direct, so emotional and so human that people contact *us* and say ‘How can I help?’ In this work, we’re not having to say ‘There’s a problem.’ We’re mostly saying, ‘Here’s a productive way you can direct your outrage.’” Klein, *No Logo* 347-8.

their icons.²⁵ In tandem to this, it is also much easier for consumers if we can have pointed out for us that *this* toy, shoe or piece of architectural formwork is ethically off limits. The image infrastructure is in all of these ways far easier to get a hold of than relationality, than an *ecology* of the image.

Klein's book, which has been taken up as the "bible for anti-corporate militancy",²⁶ brings the 'anti-corporate movement' into a coherent shape and at the same time fills out the disingenuous corporate landscape with satisfyingly persuasive research. While Klein articulates culture jamming as but one graphic interventionist tool of anti-corporate culture, her entire project can be seen in terms of a twist in the fabric of representationalist culture. At the same time as evoking the promise of a coming revolution, her text places all its faith in the power of representation and the seductive ontology of the "outsider stance".²⁷ It is the brands themselves that give us a crash course in outlining oppositional politics.²⁸ The oft-cited Seattle demonstration, in which 50,000 protesters prevented a WTO meeting from taking place in November 1999, created an effect but did not make a sustained intervention. Such protest has no project beyond reiterative confrontation and televised protesters never fail to get decanted into pre-existing forms. There is no awakening from the sedation of the image, from the "bad dream of modern society in chains".²⁹ This situation cannot be undone by willing into being a global opposition as live content for the humanist rhetoric of 'freedom', 'authenticity' and 'self-determination', which have no resonance outside the space of the sign.

Each political opposition must construct its actions in response to an increasingly well-informed and culturally prepped enemy. Strategies of visual politics — the graphic jams of BUGAUP (Billboard Utilising Graffitists

²⁵ Ross tells us of talk-show host Kathie Lee Gifford's re-appropriation of humanist concern upon the exposure of her clothing label's use of 'sweatshop' labour. "(A) perfect foil for revelations about child labor" Ross writes, "(i)t took Gifford only two weeks to ascend to the saintly rank of labor crusader." Ross, *No Sweat* 27.

²⁶ This quote is taken from the list of review excerpts printed in the front of Klein's *No Logo*.

²⁷ Klein, *No Logo* 283.

²⁸ Klein, *No Logo* 442.

Against Unhealthy Promotions) or Adbusters; mass reverse interventions like ‘Buy Nothing Day’; the attempt to force speech from the silence of the Reagan administration on AIDS via ‘agitprop’ images by activists Gran Fury; the mass demonstrations, events or targeted media protests of ACTUP (AIDS Coalition To Unleash Power) or Greenpeace — are all subject to the same assertoric structure that incapacitates sustained transformation, in spite of the growing disparities and injustices they identify, and the highly incisive cultural critique they may motivate.³⁰ Political dissent becomes a look.³¹ A consideration of any one case study of aesthetic activism and its attempts to push silent problems into tangible shapes, turns up heart-warming successes and blood boiling failures. But none has effected cultural re-direction.

To see the designing power of semiotic environments and identify opportunities to intervene in them, to remobilise signs to new ends, to intuit the cultural ‘pitch’ of things and use this literacy to rework cultural forms — are all tactical possibilities for culture jamming.³² However these de-sign capabilities are squandered when the image becomes the endgame and the only possible site of cultural negotiation.

The culture that culture jamming jams does not concern the complex televisual configuration of self, thing and world, but that of the image that is

²⁹ Debord writes: “The spectacle is the bad dream of modern society in chains, expressing nothing more than its wish for sleep. The spectacle is the guardian of that sleep.” Debord, *The Society of the Spectacle* 18.

³⁰ One of the best examples of the critical negotiation of crisis by cultural theory is to be found in Douglas Crimp ed., *AIDS: Cultural Analysis Cultural Activism* (Cambridge and London: October/MIT, 1987).

³¹ An example is ACTUP’s famous logo “Silence = Death”. This was a ‘culture-jam’ by the Silence = Death Collective which ‘reclaimed’ a sign from Nazi iconography and spoke so directly of the initial Western hit of the AIDS crisis in the early to mid 80s. It is now a sign of its time rather than a prompt for the recognition of the ongoing crisis of AIDS.

³² To evoke Michel de Certeau’s famous distinction between invisible, spontaneous tactics that ‘make do’ with what is to hand and planned, visible strategies, culture jamming might be understood within a tactical framework. Each ‘tactical’ manoeuvre has a precise window of affect circumscribed by the specific context of its appearance and the horizon of the image, and is only tenuously related to other such events. The distinction is complicated in a televisual culture where tactics become strategies which then become the basis for ‘new’ tactics (a process documented in the film *Merchants of Cool*, cited above). On this distinction see Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1988).

always encountered, understood and underwritten by the assumption of the transformative power of the momentary encounter. Aesthetic activism is ultimately foreclosed by its own ‘frontier’ tactics, by its demand for complete transparency, its tacit idealism, its own finger-pointing and misdirected politics hinged on the notion of democratic freedom unconstrained by design. The sign, without an understanding of design, is simply not up to the task of generating desired cultural change.

Returning to *The Society of the Spectacle*, we can see that although many of Debord’s comments sound relevant, it is precisely this relevance that reveals the lack of agency of a political project conceived without design. Nothing has changed vis-à-vis the productivism of the televisual. In fact the comment that appear on the dust-jacket of the Zone publication of *The Society of the Spectacle* lists the most important change in the last twenty years as “the very continuation of the spectacle”, the confirmation of the prescience of a cultural argument embalmed in postmodern hyper-styling. Here we have a clear example of the problem of the theoretical benefit of worsening cultural conditions. The attempt to mobilize theory to effect change, to move from ‘theory’ to ‘practice’ in the strategies of a reinvented aesthetic activism, merely asserts the vast gulf between them.

‘GREEN DESIRES’

Green desires are desires remade in the shadow of ecological danger...this desire has to be turned into things we see and want. (Tony Fry)³³

How might semiotic strategies contribute *effectively* to the broader project of changing the set of cultural propensities? The mobilisation of signs of sustainability in the context of *particular* products warrants consideration, in terms of embodying relations of production, consumption and waste, and scripting alternative cultures of use.

³³ Fry, *Green Desires* 12-3.

Let us start with one of the most recognisable visual signs of cultural difference in product design — the interlocked arrows that signify recycling. I found an example of this ubiquitous sign adorning a label I took from a package of flexible, low-density polyethylene that lay in a bin destined for land-fill. Recycling depends upon a lifecycle responsibility involving producers, product users and an adequate post-use collection infrastructure. This misplaced destiny is therefore not uncommon, because such a sign is incapable of bringing the conditions for sustainability into being. It belongs to a culture that is not yet with us.

The green sign emerged as a symbolic resolution of the complexity of macro-environmental issues that surfaced in the 70s, and the tenuous intelligibility of their connection to everyday products. In the early 90s Nigel Whiteley said “(w)hile the route from an awareness of macro-issues to micro-consumption is relatively established, the significant change has been from micro-consumption to the possibility of macro-understanding.”³⁴ The purpose of the green sign was to manage this change, disseminating a broad awareness and sensitivity to the environment. Thus in some respects the complex project of cultural denaturalisation hinged on a functional colour, a sign of the participation of the idea of nature in the system of exchange.³⁵ The green sign has persisted as a sign of moral consumption, yet it has failed to bring into effect the background greening of culture because of an imprecision in contextual understanding and directional purpose.³⁶

Whiteley expressed the fear that after the novelty had gone, the green sign would retreat like some over-the-hill celebrity to appearances in the occasional magazine article.³⁷ On the contrary, however, the mode of retreat of

³⁴ Whiteley, *Design for Society* 51.

³⁵ Baudrillard shows how the ‘natural’ is re-born within the sign system endowed with both morality and functionality in *The System of Objects* 31-34; 58-62; also throughout the essays in *For a Political Economy of the Sign*, for example “Sign Function and Class Logic” (46-7) and “Design and Environment” in which he writes: “Nature (which seems to become hostile, wishing by pollution to avenge its exploitation) must be made to participate.” (201).

³⁶ Whiteley remarks that ‘green’ purchasing engenders consumer demands for “financial incentive or a personal reward for their ‘enlightened’ choice.” Whiteley, *Design for Society* 53.

³⁷ Whiteley, *Design for Society* 49.

the green sign has been its expansion and normalisation. Nowadays it is just as likely to be used by an honest, though culturally naïve environmental group as it is by corporate ‘citizens’ in their public relations exercises. Further, there is a proliferation of green products attempting to cash in on the last gasp of the sign’s interpellative power.³⁸ Whiteley’s prediction that “(g)reen aesthetics will become as diverse as people’s tastes” did not anticipate the integration of informed consumer behaviour, but rather the bankruptcy of the green sign’s moment.³⁹ Instead of pointing to the key requirement of a *reduction* in the net throughput of products, the green sign now contributes to the expansion of the psychological space of consumerism and the naturalised myth of product-based well being. It has become simply another consumer aesthetic predicated on an infinite referential flexibility and symbolic satisfaction.

Rebecca Tanqueray’s *Eco Chic: Organic Living* (2000) is but one example of the depoliticised destiny of the green sign.⁴⁰ This glossy, ‘lifestyle’ manual reloads extant signs of the affluent good life with a grab bag of environmental/natural signifieds.⁴¹ From the close-up shot of uniform, flawless cherries and blueberries in the organic eating section, (images that fetishise the ‘fresh’, ‘pure’ and ‘delicious’ ideals of organic food without any of its unpredictability)⁴² to the huge, stylishly sparse kitchen and other interiors shot in ways that emphasise the desirability of clean, open space, these images revel

³⁸ We might cite here any number of ‘environmentally-friendly’ products, for example the biodegradable dish-washing liquid with the dolphin-adorned label, corporate sponsorship program, ‘green’ colour and lingering, ‘environmental’ fragrance.

³⁹ Whiteley, *Design for Society* 92.

⁴⁰ Rebecca Tanqueray, *Eco Chic: Organic Living* (Sydney: New Holland Publishers, 2000).

⁴¹ Judith Williamson analyses signs of nature using structuralist anthropologist Claude Lévi-Strauss’ paradigm of ‘the raw and the cooked’. “Nature is cooked by culture, fed into it to provide fodder for ‘Science’ in the sense...of a metaphysical organiser: *through* ‘Science’ we may see ordered nature; in the transparency of its own workings we see what is ‘natural’.” She explicates a range of examples from advertisements that demonstrate the mimetic completion of nature in products. Williamson, *Decoding Advertisements* 127. A very different reading of ‘the natural’ aesthetic is made by Daniel Harris, which is driven far more by the pleasure of the text than by the ‘workmanlike’ deconstruction of ideology in Williamson. Harris, *Cute, Quaint, Hungry and Romantic: The Aesthetics of Consumerism* 179 – 208.

⁴² The organic food industry is hampered in its growth by the unpredictable quality and seasonal dependency of its produce, which calls upon a careful disposition in selecting, storing and planning the preparation of food. This is a culture that is in some senses quite unlike that of

in the erroneous modern desirability of never-been-touched newness. In spite of its advocacy of recycled timbers, unbleached post-consumer papers, low impact textiles and energy and water-saving devices in kitchens and bathrooms, the aesthetic packaging of these new lifestyle ‘descriptors’ presents them as moral acquisitions that normalise aesthetic obsolescence. In addition, the layout of the book displays as luxurious a relation to packaging as exhibited in any up-market department store, where tiny bottles of perfume and potion need to be swathed in reams of tissue, bleached, inked and waxed cardboard and non-recyclable cellophane to signify luxury and preciousness, and to maintain their sign value against an ever increasing array of competitors. Each double page has barely a paragraph of text (magazine-style, key paragraphs are enlarged and repeated for graphic effect) and is dominated by glossy, show-room photographs of uninhabited spaces and pristine objects naturally spaced to allow them “the ‘luxury’ of breathing”.⁴³ Such an example points to the affirmative nature of the failure of the green sign.

More than backfiring on those keen to promote cultural change, the moral coding of the green sign has generated a strong backlash against the unfinished ‘eco’ aesthetic. Once a powerful sign of cultural difference, recycled paper for example is now aesthetically passé, difficult to source, lacking in technological ‘performance’ and expensive. This is partly due to the removal of subsidies on paper recycle, but also more importantly to its diminished sign value, the passing of its cultural visibility. While paper should have become more precious, and new technology designed to enable comfortable paperless communication, the opposite has happened. Office paper recycling bins overflow with the success of recycling programs. The

the early picked, over-refrigerated, gassed ‘freshness’ of mainstream produce, whose constant availability and televisual uniformity often works to disguise inedibility.

⁴³ Baudrillard insightfully de-signs the ‘natural’ semiotics of modern spac(ing). He says: “The fact that space itself has the connotation of *emptiness* ... creates a ‘natural’ effect: we say that it is ‘airy’. This is the temptation of emptiness, as when unadorned walls indicate culture and luxury. An *objet d’art* may seem more precious when it is surrounded by empty space. ‘Atmosphere’ is thus very often created merely by a formal arrangement which ‘personalises’ particular objects through the disposition of empty space. In the case of serially produced

commercial potential of new printers is based solely on their ability to accelerate the churn-rate of ‘consumables’ such as paper and toner. Recycled paper, which was once identified by carrying a visible trace of its past and potential future, has been reduced to a green sub-set of papers with recycled content, generally derived from the off-cuts of paper production, sandwiched between layers of virgin bleached pulp. It is now the brightness, whiteness, thickness and technological consistency of papers that is marketed as desirable.

Certainly the limited efficacy of the sign is not lost on media and social marketers who widely acknowledge the failure of conventional marketing to effect behavioural change.⁴⁴ As we have seen, representational exposure and description will not necessarily change what people choose to make or do with this information. The Saussurean assumption that people carry identical information in their heads in some kind of evenly lit catalogue until they need it, breaks down with the recognition of the power of habitual lifestyle grooves. Marketing grows evermore strategic in its attempts to create product visibility, as culture jammers know, evermore ‘counter-representational’.⁴⁵ The prevailing thought is that people will not change, in spite of the growth in information about environmental problems and their cultural sources.

Recognition of the power of the symbolic playing field has sent environmental marketing further into televisual culture. This explains the current popularity of ‘cause marketing’ campaigns, where success can be claimed for extremely modest and extremely over-dressed issues. While Unilever produces 150 million personal care and snack food ‘necessities’ a day, Planet Ark use pop star Kylie Minogue to promote the recycling of

objects, conversely, a shortage of space destroys atmosphere by depriving objects of the luxury of ‘breathing’.” Baudrillard, *The System of Objects* 61.

⁴⁴ See for example Doug McKenzie Mohr and William Smith, *Fostering Sustainable Behaviour: an introduction to Community-Based Social Marketing* (New Society Publishers: Gabriola Island, 1999). This text provides some suggestive ideas for the design of effective, contextualised communication strategies.

⁴⁵ Examples of ‘counter-representational’ marketing strategies include public transport ‘bombing’ which entails ‘canonic’ people talking loudly into their mobile phones and feeding product recommendations into the conversation or attaching personalised, anonymous notes of recommendations onto torn-out magazine advertisements and sending them to potential

Christmas cards to great effect.⁴⁶ Adorning the environment with retail glamour seems to be a final, cynical gesture toward cultural change. Instead of cultural re-direction, the unimpeded continuance of the business-as-usual growth in materials intensive ‘consumer’ lifestyles is secured.⁴⁷

A model for a different culture of the green sign may be found in the ‘production side’ culture shift to re-manufacture where product components are reclaimed and refurbished for reuse. In this situation, the sign serves a decisive and critical role in scripting actions with materials that are, as Manzini tells us, increasingly difficult to visually identify. Each part of a plastic product may be marked with a materials code that instructs as to the nature and correct handling of the specific plastic material to which it refers, so that when it is reclaimed and disassembled, each part is sent in the right direction. Such a sign is encountered in the stream of targeted actions or in the existing culture of use surrounding a product. It therefore has a more effective role to play than the ‘catch-all’ green label or eco-label as it joins with and recognises design trajectories outside the space of the sign.⁴⁸

We have shown that in televisual culture the key role of the sign has been to conceal the finitude of things and to absorb the burden of material complexity in the promotion of product-based well-being. Yet between the unfulfilled promise of the green sign and the sign as pragmatic equipment to direct use, what redirective power might there be in alternative scripts —

consumers. These strategies are presented in the Barak Goodman documentary *Merchants of Cool* (2001) cited above.

⁴⁶Unilever statistic given by Henry King, an environmental manager with Unilever at *Life Cycle Decision Making for Sustainability* Conference, Broad Beach, July 2002.

⁴⁷For a study on the status quo of ‘sustainable consumption’ see Chris Ryan, *Sustainable Consumption: A Global Status Report* (United Nations Environment Program, 2002) July 14, 2004. <www.unep.org/pc/pc/gs2002.htm>.

⁴⁸The eco-label is a mark of the scientific verification of a product in terms of standards of ‘environmental performance’ in energy or water efficiency, for example. It is still widely seen as key communicative tool capable of driving more sustainable relationships between products and product users. As a catch-all marker of the (in)visible environmental sensitivity of a product, the eco-label succumbs to the limitations of representation we have explored, including the tendency to abdicate relational responsibility — this product is ‘green’ for whatever reason — which pertains equally to the side of ‘production’ or ‘consumption’. The eco-label also effects the perceptual reduction of massive impacts to a singular discrete entity — the label is silent as regards the total impacts of the series to which it belongs.

scripts for seeing and wanting things differently? Is there a role for cosmetic alchemy, for the sign's capacity to both make something out of nothing and to erase material thingliness?

This possibility is explored in the project of a group of designers established in the mid 90s in the Netherlands, with whom Manzini is involved. This group — *Eternally Yours* — have attempted to use the sign to hasten cultural change. They focus on ways to increase the 'psychological life span' or cultural durability of products in response to the problem of the loss of experiential limit. In this they attempt to design ways to culture jam the modernist aesthetics of newness, youth, magical appearance and structural closure that semioticians like Williamson have so carefully diagnosed, and which manifests in the aesthetic obsolescence of things.⁴⁹

Eternally Yours: visions of product endurance is a series of proposals for this counter-project, named 'product life extension'. The group initially scanned human culture for existing signs of desirable durability that could be appropriated in a design context. Lasting human relationships and their connotations of care, dependency, fidelity, recognition, preciousness and commitment became the focus of the project. It explored how such values could be designed back into the devalued and ephemeral products of everyday life, to promote a carefulness with things, a willingness to maintain, repair, keep, upgrade, share or reuse them.

The proposals included giving products anthropomorphic attributes like personal histories, well-planned careers, life-changing, character-building experiences, ritual celebrations like birthday parties and 'dignified' retirements. After 'death' products might become heroic organ donors for other products. Narrative or contextual enframing enhanced product aesthetics derived from the processes of production, wear and use. An example from the book is a promotional image that shows a Nikon camera that has spent some time at the bottom of the sea. The image is anchored by the slogan: "This camera works." The promise of utility is enhanced by the apparent age and experience of the

camera and in this, a new form of desire is promoted.⁵⁰ So the suggestion is that a product might be promoted as transcending generations or seasons, as the start of a 'new' tradition or as a way to salvage an old one.

These proposals are presented as ideas for design appropriation rather than as definitive solutions to the culture of unsustainability. The aesthetic difference emerging from duration and useful engagement, is in sharp distinction to the naturalised, resource-intensive fetishism that sustains the modernist perfection of possessions such as cars, homes and lawns or even the loving attention bestowed on remote televisual celebrities.⁵¹

The approach of *Eternally Yours* treats culture like a design work-book, as a source of cultural values centred on what sustains and is sustained. It contests the idea that things should be rigorously 'authentic'. In a world of (in)visible artificiality, of complex and often untraceable design lineages, which is also a world in which sustainability has as yet few incremental forms, the question emerges as to whether the history of a product has to be its *own* history.

The motivated nature of myth sickened Barthes "from the point of view of ethics."⁵² However design problematises the possibility of unmotivated relations. Certainly the operation of myth should inspire a healthy caution in a televisual environment filled with scripts designed by marketing. However, strategies of cultural intervention have no choice but to reinvent the ground that memory has abandoned and in many cases, as Beck suggests, relinquished all ties with.⁵³ The ethical imperative is to do this in recognition of the productive force of interpretation. One is reminded of the shoes of Van Gogh, which Heidegger 'misrepresented' as peasant shoes yet made speak so rewardingly of

⁴⁹ van Hinte, *Eternally Yours* 56.

⁵⁰ van Hinte, *Eternally Yours* 55.

⁵¹ Davison, *Technology and the Contested Meanings of Sustainability* 84-5.

⁵² Barthes, *Mythologies* 126.

⁵³ Beck, *Ecological Enlightenment* 14.

things thinging, of the peasant and of a life lived in relation to the land and the ever-present menace of death.⁵⁴

The *Eternally Yours* project suggests that the sign, which can pull a product into obsolescence, can equally be harnessed to cultivate a sustainable sensibility. The pragmatic thinking behind the project was that making sustainability culturally desirable would in turn generate businesses and markets centred around and supportive of this culture — this has not happened. The project remains disarticulated from industrial productivity. *Eternally Yours* has been criticized for its idealism and lack of results. In all their strategies, Verbeek and Kockelkoren argue, “the products themselves, as material objects, are hardly relevant anymore...reduced to something nonmaterial: to signs, to actors in a story, to ‘character’.”⁵⁵ There is, they suggest, a kind of Platonic ‘one-sidedness’ in the project’s thinking, an abandonment of material wholeness. We have already mounted a critique on the embedded idealism of this view, which we will take further in Part 4.

Rather, the sign cannot function as a self-fulfilling prophecy of cultural change because its ‘vision’ is circumscribed by the fixed horizon of its materialised form. The mobilization of signs of difference — such as the recent attempt to promote the preciousness of water — inevitably confronts the problem of the embedded material consequences of prior symbolic abundance in infrastructure, architecture, industry and lifestyle habits. The value in the *Eternally Yours* project, a recognition that in my view is vastly underplayed in

⁵⁴ Heidegger notes that there are no immediate visible signs that tell us definitively of the use of these shoes. Yet “(f)rom the dark opening of the worn insides of the shoes the toilsome tread of the worker stares forth. In the stiffly rugged heaviness of the shoes there is the accumulated tenacity of her slow trudge through far-spreading and ever-uniform furrows of the field swept by a raw wind.” Heidegger, “The Origin of the Work of Art” 33-4. Davison is disturbed by this ‘invention’ noting that the shoes, which probably belonged to the artist himself, spoke rather of the coal-blackened cobbled streets of Paris. “It seems reasonable to speculate that had Heidegger known (this), he wouldn’t have been moved to reflect upon the story they tell. More disturbingly for his readers is the fact that he may have been tempted to claim that these shoes were mute technologised objects with no story to tell.” Davison, *Technology and the Contested Meanings of Sustainability* 126.

⁵⁵ Verbeek and Kockelkoren, “The Things that Matter” 30. We take this criticism of *Eternally Yours* further in Part 4.

design thinking, is that the environmental problematic takes place in a world of objects and relations that are already submerged in signs.

It is not surprising then that the visual evocation of sustainability on its own has had little impact on the ‘sickness of affluence’ and product-based well-being that is sustained by the televisual.⁵⁶ The televisual script *works* precisely because it keys into appropriate ways of being in a televisual environment continually reproduced by design.

In this chapter we have reviewed practices that conduct political activity within the inducting framework of the image and have revealed that they are in the main unable to handle what McHoul calls ‘the space outside the sign’. A practice that is capable of reading the concealed ecological violence upon which design rests is, on the other hand, a practice that recognises that design *is* already political as it shapes and transforms beings and environments. Such a practice needs to fully engage with design’s complex support and technical completion of productivist ‘progress’ and work out a context for intervention that will generate changes in the existing culture, in which design largely removes both pain and memory.⁵⁷

The critical practice of de-sign is a vital initial strategy at this nascent point in the development of a culture of sustainment in the midst of concrete and ongoing unsustainability. De-sign is an act of discovery of ecological danger in a world in which functional transparency has liquidated any shadow of doubt. De-sign emerges between the empirical horizon sealed in and by the image and the interpretative/perceptual horizon that can contest it.

SNAP SHOT: DE-SIGNING ‘THE DESERT OF THE REAL’

When is the sign? Now-here. A major arterial roadway in Sydney, a situated ‘anywhere.’ This is a barely noticeable transit zone, certainly not an obviously cultural place. Yet it presents a de-sign opportunity.

⁵⁶ A recent, popular account of this ‘sickness’ is Clive Hamilton, *Growth Fetish* (Crows Nest, NSW: Allen & Unwin, 2003).

⁵⁷ On memory see Beck, *Ecological Enlightenment* 14.

I am standing at the lights waiting to cross the road. The environment does not invite lingering. There are the unnameable heavy smells, momentary thermal intensities and the piercing crescendo of the traffic to contend with. A bus chugs at the lights adorned with an advertisement for a 'mega'-range cordless phone. In the image a tanned, bikini-clad girl lays poolside, talking into a phone. Behind her, in the typical hyperbole of digital images, an expanse of manicured, green lawn and a mansion-style house. Williamson could tell us in an instant about the semiotic construction of this image, what it affirms about women, patriarchal ideology, desire. However, if we unfold this image from the perspective of the future it projects and the environment it inhabits, a different causal story emerges. In a time of drought, the image attempts to evoke desire for a poolside lifestyle and for great expanses of verdant lawn, which will need to be constantly mown and watered to stay green. In a time of the emergence of ozone depletion and rising skin cancer, the carefree demeanour of the girl — who does not wear sunglasses and appears to be coated in a slick of suntan oil — flanked by the ridiculous tree-less lawn — is no longer a powerful symbol of desire, but a measure of extreme ignorance. In a time when 'climate change' grows in resonance, such an image becomes a concrete example of dangerous denial.

As I cross the street (the sign blinks red, threatening to reopen the road before I reach half way) I try to catch the eyes of the people in rows of cars and feel extremely vulnerable. Enveloped in their tinted microclimates, I recall Scarry's description of the 'artefact-human', unconsciously extended and empowered by design. I look back at the bus; on its other side is an ad for a phone company. Below a big affirmative 'yes' is a promise: "we've built 1 new base station every day since 1999 and with more on the way we've got you covered". Ahead of me a new, medium-density housing complex has just opened that looks out onto this road and the courtyard of a massive service station. The canopy of the service station is lined with a grid-feeding solar array. Around it is a cluster of fast-food restaurants, whose lights, (in spite of the solar sign of 'renewability' they surround), remain on all day and all night. In the centre of this array of buildings, and directly in front of the line of sight of a row of new aluminium and glass walled bedrooms, rises a mobile phone tower styled to look like Sydney's Centrepont, which carries the infrastructure of five competing telecommunications companies. The potential danger of unauthorized electromagnetic 'conversations' with the inhabitants sleeping in their bedrooms or working below is ignored.

The service station, which displays clearly marked recycling bins, is surrounded by many more overflowing waste-bins full of empty chips packets, ice-cream wrappers and barely used plastic and paper bags. Yet the station continues to insist on the provision of an astonishingly

excessive array of packages — people in a hurry perhaps cannot muster the effort to resist. The new apartments that abut the main street are painted a pale cream, providing an unanticipated billboard for the heavy metals, carbon, synthetic rubber, unburnt fuel and dust particulate emitted from the passing cars. A corner electronics shop is full of new analogue televisions that will be obsolete within five years. This shop faces onto the adjacent street lined with ‘Chinese Tallow’ trees — a designated ‘environmental weed’ — unceremoniously hacked to make space for the telecommunications infrastructure as their roots lift and crack the bitumen. De-sign reveals a world fashioned by self-certain designing. In this world the things gathered do not ‘understand’ each other, and there is little recognition of the shared space and future embodied in and shaped by them.

PART 4: THE DISCOURSE OF PRODUCTS

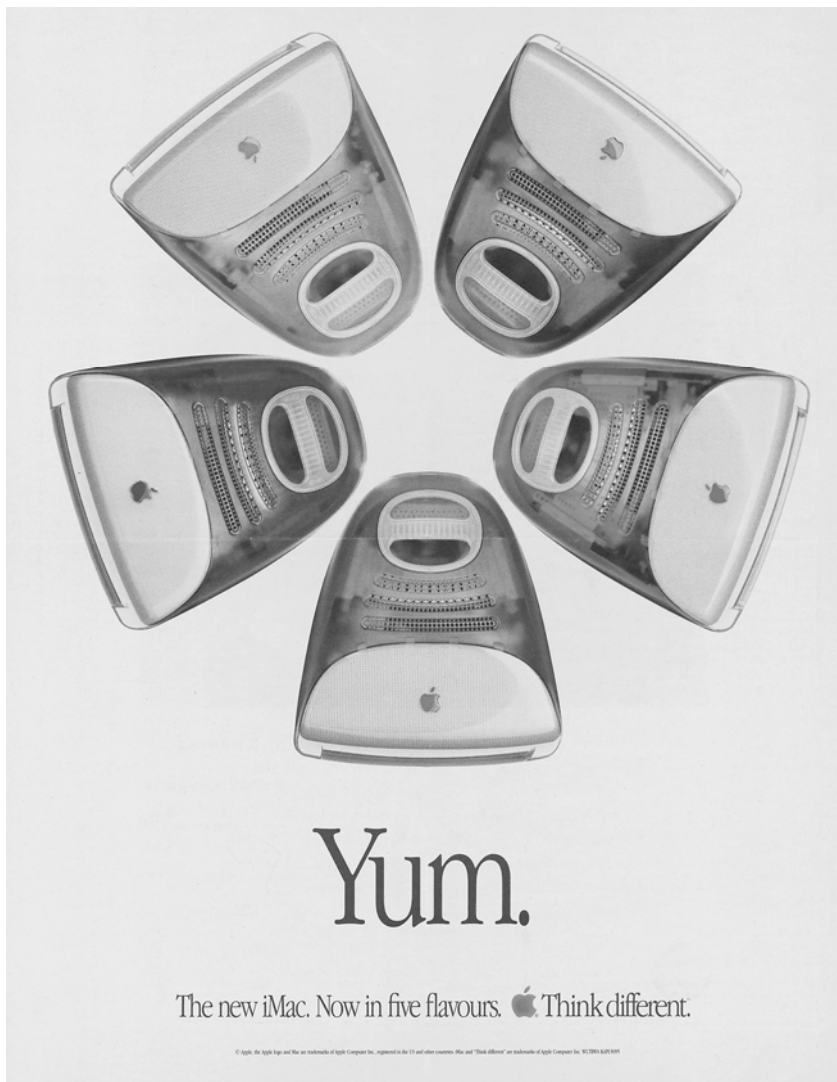


Figure 4 Apple Inc. product literature, 1999.

PART 4: THE DISCOURSE OF PRODUCTS

All reification is a forgetting. (Theodor Adorno)⁵⁸

It not just the loss of something, but the lack of memory of the loss that buries it a second time and for good. Memory, however, which keeps what was lost from disappearing into oblivion, means cultural search and reliving.

(Ulrich Beck)⁵⁹

This final Part calls for a return of ‘environmental consciousness’ in the practice of design. It is particularly the everyday, technical product that we argue can be understood as a powerful, phenomenal expression of the designing that removes ecological danger in our world: ‘telegenic’ designing. We focus on the designed commensurability of idea and material form that puts the product literally and intimately in touch with human worlds in a way the image is inclined to deny — one cannot say of the product as John Tagg says of the photograph’s referential character, “the power it wields is never its own.”⁶⁰ We link telegenic designing to the professional practice of object-oriented design and situate the application of our theory in this domain, elaborating a de-sign research strategy that builds upon the learning of this thesis. This strategy seeks to naturalise the practical investigation of what design designs in the conduct of material practices of design. The ontology of the designer, which takes shape in relation to the calculative methodologies of production and aesthetics and temporality of televisual ‘modernism’, is challenged.

⁵⁸ Adorno in *Über Walter Benjamin* quoted in Levin, *The Listening Self* 15.

⁵⁹ Beck, *Ecological Enlightenment* 14.

⁶⁰ Tagg, *The Burden of Representation* 64.

INTRODUCTION

The discourse of products travels in three related directions in what follows. The first is a discourse of cultural attention to products, exploring their operation, their meanings, their dangers as well as questions about what product design actually *is*. The second direction is the technical discourse of products that is supported by design practice and its various sites of action. The third is the discourse *of* products — what they tell us about themselves. This third discourse is often a clamorous rhetoric at the start of a product's life, when sign value takes precedence, but then quickly withdraws into quiet use and symbolic disrepair. It is this third discourse that we — as practicing designers, design theorists and product users — need to subject to our cultural and technical attention.

The sign is widely understood in design culture as “the very counterpart of materialism”.⁶¹ Some of the most interesting thought on design shows, however, that the sign does not exist in some Platonic non-space, but rather precisely inside the skin of the object. An applied theorisation of the product from this perspective will help us to dismantle the rigorous sign/world binarism that has taken root in our designed environments. To undertake this dismantling we will need to show how the technical object evidences the world-view of its designing and how it communicates this mind-set ecologically.

One of the most telling indications of the epistemologies governing design is the prevailing legacy of the modernist aesthetic, which resists the ruinous consequences of temporality and the signatures of use. The object holds itself in place against ruin. However, an extreme environmental fragility

⁶¹ Verbeek and Kockelkoren “The Things that Matter” 30.

is concealed within this aesthetic ‘robustness’.⁶² The effects of the imposition of forms are unanticipated, and the future that the designed object as ideal simulacrum ‘thinks’ it is heading toward, diverges significantly from the future that it actually contributes to. It is well documented that variables such as environmental conditions and the habits, routines and diverse desires of people concerning how they wanted to live, compromised the modernist vision that began to direct simulation through the 20th century.⁶³ Many modernist structures, born of and operating under the sign of ‘constant presence’, failed in a material sense, both in terms of mechanical stability (due to an abstract [mis]understanding of modern materials and how they interface with each other), and in terms of a disfiguring weathering.⁶⁴ Le Corbusier for example understood the white building as an ‘objective architectural finish.’ “Accordingly”, comment Mohsen Mostafavi and David Leatherbarrow, “the duration that is to follow the completion of the building — the life of the building — is conceived as a subtraction from the ideal condition of the project realised before inhabitation and weathering.”⁶⁵ To recall Jullien, this is not a problem only at the level of material selection or contextual analysis, but an index of the broader problem of Western thinking, in which the ideal plan “drawn up in advance” is disarticulated from the conditions of its practical implementation, “which renders it subject to chance.”⁶⁶

Deprived of multi-sensorial being and premised on the restorative powers of the economy of the same and its learnt empirical horizons, the televisual object idealises modernist autonomy. The designing of virtual spaces and objects reveals an expansionist mindset that fails to comprehend or

⁶² Baudrillard speaks of the ‘fragile object’ in the economic order of ceaseless production, “objects that are partly dysfunctional and destined for an early death; the system thus works to destroy such objects as well as to produce them.” Baudrillard, *The System of Objects* 131.

⁶³ Baudrillard’s “Design and Environment” offers one of the best descriptions of this vision. We might consider Le Corbusier’s idea of ‘autonomous living unity’ as an example, which was made material in one of his most famous post-war buildings, Unité d’Habitation in Marseilles, itself only a partial but telling realisation of a more extensive urban plan.

⁶⁴ Mohsen Mostafavi and David Leatherbarrow, *On Weathering: the life of buildings in time* (Cambridge: The MIT Press, 1993) 22-36.

⁶⁵ Mostafavi and Leatherbarrow, *On Weathering* 78-82.

⁶⁶ Jullien, *The Propensity of Things* 38.

respond to the lifeworld conditions of finitude. For Luhmann, society adapts itself to modern temporal structures via the aligning powers of the mass media, which “generate the time they presuppose”.⁶⁷ Baudrillard also talks of a coercive temporality in relation to the system of objects. He says, “we live by object time: by this I mean we live at the pace of objects.”⁶⁸ In a world populated with more designed things than people, “objects impose their disjointed rhythm — their unpredictable and sudden manner of being present, of breaking down or replacing one another without ever aging — upon human beings.”⁶⁹

The technical product manifests a confrontation between the interpreted time of design and what we might call after Heidegger the time of the earth, embodied in the materials design appropriates for its ideal ends.⁷⁰ The tendency to continue to design products in televisual terms ignores the ‘painful’ joining of temporalities in the product and is indicative of the culturally embedded relational indifference that we have discussed in this thesis.

Manzini has said, “(T)he quality of being photo and tele-genic has ... become a decisive variable in the organisation of the universe of environments and objects with which we enter into contact.”⁷¹ In the first chapter of this Part we focus on telegenic designing, and reflect on the designing of products in which the relational indifference of the televisual is hard-programmed. We look at the work of Albert Borgmann, whose concept of the device paradigm is an important design-inspired reflection following Heidegger’s investigations of technology. We consider his reading of the problem of technological society and contrast his humanist reform agenda with a design-oriented approach that acknowledges the deeply contradictory conditions of our lifeworlds in which the artificial is naturalised and in which

⁶⁷ Luhmann, *The Reality of the Mass Media* 21.

⁶⁸ Baudrillard, *The Consumer Society* 25.

⁶⁹ Baudrillard, *The System of Objects* 159.

⁷⁰ Heidegger identifies the presence of the ‘earth’ in things as a kind of commensurability with the world of their appearance. The ‘thing’ gathers relations rather than tears form into matter in the manner of the Riss (rift/design). Heidegger, “The Origin of the Work of Art” 34; “The Thing” 167.

design's duty of care is overlooked. We argue that the (in)visibility of design fractures the steadfast vision of moral reform. The designing of a culture of difference must take place in light of the defining conditions of the naturalised artificial.

The second chapter of this Part sets the scene for our response to design — as a sphere dominated by strident technical and professional interpretations — which actively resists 'impractical' critical reflection. We contextualise the technical attempt to engender unthinking product design with environmental consciousness and briefly consider Donald Schön's denaturalisation of the hermeneutic character of the design process in his theory of 'reflection-in-action', in terms of the practical relationality of de-sign.

The aim of the last chapter of this thesis is to bring its theoretical 'conversants' — from hermeneutic phenomenology, cultural theory, sociology and both critical and technical design theory — into a practical dialogue. We present a design research strategy predicated on learning to understand the product as an assemblage of cultural and technical decisions, which have various complex ecological implications. Each design process begins in conditions of partial understanding and ecological ignorance. We acknowledge this by encouraging the development of situated memories of the artificial, in the condition of the erasure and lack of memory. Our strategy is to intervene in object-oriented designing as both a professional practice and a learnt ontological disposition; thus it is intended primarily (but not exclusively) for the designer-in-training, as a counter-inductive move. The strategy seeks to encourage a more consciously 'reflective practitioner', to use Schön's terms, but also to register and communicate the shift in agency from the designer to the designed.

⁷¹ Ezio Manzini, *The Material of Invention* 25.

CHAPTER 10. TELEGENIC DESIGNING

SNAP SHOT: DESIRE ENVIRONMENT

Christmas 2002. My daughter gazes in wonder at the gleaming, bedecked tree rising through three floors of a central city building. “Beautiful” she gasps. “Shiny and lovely”. She looks to me; eyes alight, to affirm her experience of utter joy and wonderment in the face of a particularly monolithic elaboration of the precession of sign value. I look at this huge hunk of virgin plastic, wreathed in more composite materials, alloys, painted glass, foam paint and covered in lights which mock, in their benign twinkling, the forceful wrenching of coal for such pointless ends. I do not know what to say, caught by my daughter’s authentic experience of wonder. Not wanting to confuse her I tell her it’s nice, but that I will show her a real tree one day, nicer than this. Of course, this is a painfully unsatisfactory response: where on earth is to be found this ‘real’, original tree experience, which will always now be preceded and defined by this one? I am with her in a designed environment that surrounds and affirms her, and which communicates in easy tones about the things she already knows are good. This ‘good’ is already embedded in her young psyche and in its affirming midst, is utterly impossible to diminish. Once more, I resolve to never get lazy about speaking to her of the underside of the existing designed world that supports and nurtures us, as I scabble together from remote bits and pieces alternative visions of desire that speak in other, relational ways to her of what is good and sacred. Visions of sustainability will always have this double plus workload in our designed environments in which unsustainability is structural — the unworking and reworking of desire, the problem of relating them *and* communicating this relation.

TELEGENIC PRODUCTS

While our lives brim over with products, it cannot be said that we generally experience material overload. Our lifestyles are punctuated and sustained by a range of remotely designed and constructed things upon which we have come to depend. Yet these products are only rarely the subject of our overt

consideration. Being forced to take account of our belongings for example, tends to evoke the question “*where* did all this stuff come from?” What Scarry calls the human imagination’s “insistent thrust toward material self-expression” is concealed by design’s remarkable capacity to withdraw.¹ It is this capacity, design’s *structuring of forgetting*, that we now want to investigate.

In our always already relating to things, the character of these relationships tend to become withdrawn except for those situations of breakdown in which design’s failure is experienced as a lack, even betrayal on the part of the product. Our frustration or vengefulness at the sliding door that doesn’t make way for us or the chair that collapses under our weight, reveals the responsibility we attribute to and the trust we place in design. The door, the chair should have *known better*.²

The overt ‘dumb lump’ effect of non-functioning electronic products are a particular affront as they are both objectively present *and* distinctly unavailable. There is no mechanical function to resort to in many new devices, which indicates a lack of adaptability and flexibility: as Ivan Illich has noted, industrial design creates a world of things that resist insight into their nature.³ The disappearing act multiplies. After an initial induction into using many products, we seem to become unaware of why they were designed the way they were and why we use them the way we do, let alone how they extend beyond our immediate relation to them, into complex ecological systems. This ‘unconscious’ nature of design-in-use haunts any discourse regarding the question of cultural change. Product design works to more and more efficiently enhance this process of naturalisation and to meet shifting expectations of transparent ‘do-ability’. Digital products conceal their operations beneath interfaces that allow use without understanding, including self-repairing

¹ Scarry, *The Body in Pain* 179.

² “(O)bject awareness is the acceptable, expectable, and uncelebrated condition of civilisation, while object-unawareness is the unusual, unacceptable condition.” Scarry, *The Body in Pain* 296.

³ Illich quoted in Walker, *Eternally Yours* 167. The broken machine becomes ‘no thing’ because it means nothing to us, or as one media commentator put it, “a dead PC... is a very

systems.⁴ This has become a more general mode of designing both in terms of products that we handle directly, and by electronic intervention. In the computer environment, tangibility is relinquished to the design interface. Interpretations of pathways of actions in technological objects are often, as Donald Norman shows in his study of unusable things, poor interpretations.⁵ Products with seamless exteriors, ‘all-in-ones’ that conceal the materiality of componentry, lightweight products that revel in the ingenious valuelessness of plastics, appear to almost *will* a sense of inconsequentiality and disposability. It is impossible to clean, repair and reuse numerous things and where it is possible, it is often easier, more comfortable and efficient to dispose of them.⁶

Fewer and fewer products are designed to bring the user back from this situation. Design continues to deliver products that design out the need to know how something works and the effects that it might have, and replaces such needs with instantaneous facilities that negotiate around ‘thingliness’. The users are insulated from the machine’s world of circuit boards, twists of wire, spinning disk drives and operational manuals. They are unable to distinguish between their computer’s designed ‘earcons’ and those ‘natural’ audio cues associated with mechanical faults and impending breakdown (such as a bearing about to give way).⁷ This mode of designing has been linked to a fundamental loss of hand-exercised skill.⁸ Its impact is that the human user is fashioned as a television watcher — fascinated with the promise of the object and literate within the practical space engineered by the sign, but radically incapable and

expensive paper weight.” Darren Yates, “Trash or Treasure” *The Sydney Morning Herald* April 28-29, 2001.

⁴ User ‘repair’ in this case usually only extends to tweaking the PC’s cache to afford more speed, while it draws on the lexicon of mechanical repair: ‘tuning’, ‘servicing’ etc.

⁵ Instead of pathways of action, his term is ‘conceptual models’. See Norman, *The Design of Everyday Things*.

⁶ As Borgmann notes, “it is not just unnecessary but impossible to maintain and repair paper napkins, cans, Bic ball points or any other one-way or one-time devices.” Albert Borgmann, *Technology and the Character of Contemporary Life: A Philosophical Inquiry* (Chicago and London: The University of Chicago Press, 1984) 47.

⁷ The ‘earcon’ is a term for auditory icons developed by researchers at MARC’s, which provide a user with important information about a design environment. MARC’s is an auditory research laboratory at University of Western Sydney.

⁸ “(...)the hand is an essential means of staying in touch with the world...what technology increasingly does is to make us, literally, out of touch.” Fry, *Remakings* 94.

ignorant in situations that demand spontaneous practical interpretation. In the ideal technological product-user relationship, we have a machine able to perform more and more nuanced and non-standardised tasks, and a user whose role it is to merely judge the performance. We are reminded of the particular ‘environmental performance’ of the Holden/CSIRO’s parallel hybrid car that circumvents know-how while declaring the environmental credentials of its driver. The brochure reads:

The driver does not have to decide when to switch to electric power, or when to charge the batteries, or when to use the petrol engine. The EMC (Energy Management Computer) makes all those judgements, deciding in a split second what the car’s performance requirements are and what form/s of power are needed to satisfy them. Want to overtake that slow-moving truck? Depress the accelerator and the car will respond as you expect it to. The extra burst of power happens to be electrically generated, but you won’t notice the difference.⁹

Such products rebuff user knowledge, engagement and mechanical comprehension as domains of concern, resisting future invasion from the processes of repair and maintenance, while they grow ever more complex in terms of manufacture, materials, assembly, sign ecologies and environmental impacts. In this way design expedites the finitude of things under the sign of constant presence. Norman argues that the smooth transparency of well-placed affordances is a sign of ‘good’ design. In its unobtrusiveness, good design ‘disappears’.¹⁰ This overlooks design’s ontological influence. It assumes that transparent design has been made to take responsibility for the ‘right’ thing: existing cultures of use. On the contrary, the emphatic user-friendliness of many technological products (such as the incessant ‘smart’ beeping of the

⁹ From the *Holden Hybrid Technology* brochure included in the PowerHouse Museum “EcoLogic” exhibition ‘showbag’. (Holden Public Affairs: Melbourne, 2000).

¹⁰ Except when it is beautiful – Norman’s latest book explores the emotional responses we have to designed things and why things that have ‘aesthetic appeal’ work better. As noted in footnote 48, chapter 1 above, I think the value in his argument concerns the care and attention of users rather than aesthetics – we tend to ‘see’ things that call upon the practice of focal attention as Borgmann, whose arguments we explore below, suggest. In my view, Norman’s argument problematically validates using design to satiate the whims of mood, which comes dangerously close to advocating retail therapy and also fraternises with marketing’s ploy to inspire brand love. Norman, *Emotional Design*.

microwave from which food has not been collected or a seat belt that has not been done up, or the self-cleaning shaver) that ‘jigsaw’ to stereotyped use, conceals the fact that the trust that design engenders is frequently misplaced.

Designed things are, to follow Bateson, trusted ideas.¹¹ These ideas remain intact, hidden inside technical housings unless design is retrospectively made to detail its secret actions. Bruno Latour remarks that accidents provide a scenario within which one is finally able to hear what machines silently do or say via a kind of reverse engineering:

When the space shuttle exploded, thousands of pages of transcripts suddenly covered every detail of the silent machine, and hundreds of inspectors, members of congress, and engineers retrieved from NASA dozens of thousands of pages of drafts and orders. This description... retraces the steps made by the engineers to transform texts, drafts and projects into things.¹²

Even so, the power of design in its relational transactions with users mostly eludes analysis because analysis is itself circumscribed by a technical worldview. Products are made and desired however on the basis not of technical but of cultural ‘truths’ and in response to utterly cultural expectations and idiosyncrasies of use.¹³ It is the cultural fit of the technical product that is prioritised in design, even while the predominant understanding is that the technical object is merely technical, composed with a neutral clarity of cause-effect relations. This is enhanced by the sensible, object-oriented view of culture, which fails to value scientific and technical understandings as cultural interpretations. The kind of apparent benign servicing evidenced by the technical products of everyday life can be understood, suggests Borgmann, as

¹¹ Bateson writes“(t)rusteds ideas...become available for immediate use without thoughtful inspection.” *Steps to an Ecology of Mind* 509.

¹² Bruno Latour “Where are the Missing Masses? The Sociology of a Few Mundane Artifacts” 233.

¹³ This is indicated by the rising interest in ethnographic research in design. It is common for groups of designers to talk about the ways people relate to technology which have nothing to do with design intention — shaking and banging the mouse, saying the fax is ‘slow’, the temperamental desktop ‘likes’ to be left on all day etc. For a discussion on user experience in design see Margolin, “The Experience of Products” in *The Politics of the Artificial*.

enacting 'liberal democracy'.¹⁴ The liberal democratic tradition, with its distinctive convergence of the notions of liberty as absence of constraint, equality and self-realisation, has become, he argues, an overdetermining political context.¹⁵ It is absolutely consonant with the instrumental conception of technology as liberator, a role that has been taken on too conscientiously and uniformly: we have, in Borgmann's view simultaneously been 'liberated' both from what burdens us and what is worth sustaining.¹⁶

This characterisation of a cultural thematic locked into the instruments of technology is what Borgmann identifies as 'the promise of technology'. We have consented to its specification of the 'good life', whilst allowing technological operations to remain sheltered from public scrutiny.¹⁷ This promise was issued when the transformative powers of science began to take worldly shape, and augured that liberation from human hardship via technical means was at hand. Borgmann quotes a prescient Descartes, who says that the unconstraining of human reason from the dire limitations of nature:

(W)ould not only be desirable in bringing about the invention of an infinity of devices to enable us to enjoy the fruits of agriculture and all the wealth of the earth without labour, but even more so in conserving health, the principle good and the basis of all other goods in this life.¹⁸

This promise resonates in the contemporary world in which citizens are 'haves' or 'have nots'. It drives the spread of proto-consumerism into the third world as the democratic sharing of a technically specified and symbolically charged standard of living.¹⁹ Technology is not a choice put on offer, but rather constitutes the very basis for choices, and access to its products is increasingly

¹⁴ Borgmann, *Technology and the Character of Contemporary Life* 92.

¹⁵ He argues that liberal democratic theory "is a force even in places where modern technology has a conservative or socialist cast." Borgmann, *Technology and the Character of Contemporary Life* 82.

¹⁶ "This becomes clear when one asks not merely whether opportunities in a liberal democratic society are equal and just but what kind of opportunity they represent." (86) For Aidan Davison, this is Borgmann's crucial insight into technological society. Davison, *Technology and the Contested Meanings of Sustainability* 111.

¹⁷ Borgmann *Technology and the Character of Contemporary Life* 100.

¹⁸ Borgmann, *Technology and the Character of Contemporary Life* 36.

¹⁹ Fry, *A New Design Philosophy* 240.

understood a basic human right.²⁰ This situation is so culturally embedded that almost without exception, technology is called in to resolve problems that were at least in part technologically created. Environmental problems are for example exacerbated, made visible and managed by technology. Technology alone, it seems, has the ability to overcome itself. As Davison has noted, evidence of unsustainability is increasingly taken as proof of the nascent state of technology.²¹

The technological ‘fix’ both prescribes our interaction with technical systems and is fed back into the very design of products themselves.²² Product development performs affirmative action for the promise of technology, confusing assigned potential with actual conduct. While it seems as though we are constantly getting more compact and integrated designs, the technological device is never fully integrated. It relies on a consistent power supply and is increasingly dependent on environmental data services. There is also an expectation that each technological increment carries the sign of its successor, which is also of course the seed of its own destruction. You will get more than meets the eye, hardware plus software, the object plus its coming abilities. Technological innovation is prescribed — you can often sense where innovation should go next as current technologies become incorporated and communicate new standards in acceleration and dematerialisation. Hardware merely punctuates the trajectory of innovation. It needs to feel natural and familiar to the user, yet also needs to meet expectations by feeling faster, more efficient and effortless. While these minimal transitory differences are eventually naturalised in use, they are an important part of the initial product rhetoric, which determine how judgement is cast on a new device and directs its cultural induction. The proliferation of ‘third generation’, wireless products now appearing, seem to be reaching for an era when the environment will be overtly techno-spheric, thick with data. Hardware will increasingly be designed

²⁰ Borgmann, *Technology and the Character of Contemporary Life* 103.

²¹ Davison, *Technology and the Contested Meanings of Sustainability* 5.

²² Borgmann notes that ‘technological fix’ was coined by Alvin M. Weinberg in 1966. *Technology and the Character of Contemporary Life* 164.

to merely ‘window’ the efficiency of the system of fully-fledged high-bandwidth wireless data services endlessly servicing the smooth operativity of daily life unobstructed by objects.

In spite of this ideal destiny, actual use makes evident a disjuncture between the technological promise and the functions that are actually delivered, which is exacerbated by design’s rapid retreat into functionality. While many technical products can barely contain their promise in the proliferation of functions they *could* perform (virtual desktops are littered with unused programs and every internet search is swamped by endless offers of ‘freeware’) we also seem to carry an expectation of the counter-intuitive nature of technical performance that leads us to tolerate a dysfunctionality and unreliability that we would be unlikely to accept from any un-powered, mechanical product.²³ This implicates the complicity of the user in the technological promise as a major driver of technologies for the consumer market, where image functions as a sign of ideal operation.²⁴

The lack of a feeling for consequence, feedback or danger in relation to Descartes’ ‘infinity of devices’, does not sit somewhere outside the world of products in a world of ideas, but is brought into being by them. After Heidegger, Borgmann specifies a pattern of concealment that is designed into products.²⁵ For him, the defining feature of each and every technological

²³ Norman argues that says there is a lack of trust in relation to complex electronic devices in contrast to simple mechanical objects because we don’t know what to expect from them and frequently feel ‘out of control.’ This initial mistrust of course evaporates when the new software or operation is ‘mastered’. Norman, *Emotional Design* 138.

²⁴ Borgmann describes the consumer who is both wary of technology but also unable to act differently with it as complicit: “we have a vanishing or perhaps dawning sense of how tenuous and futile our allegiance to consumption is. This sense, joined with our reluctance to act on it, I have called complicity.” Borgmann, *Technology and the Character of Contemporary Life* 173.

²⁵ While Borgmann is at pains to distinguish his project from Heidegger’s, particularly in relation to his specifically contemporary orientation, his device paradigm is highly circumscribed by Heidegger’s thought on Enframing as the technological mode of disclosure. We can hear this for example in the following, “(a)ll of reality is patterned after the paradigm, and in this sense we can say that the paradigm has acquired an ontological dimension. When applied to technology, this is not to explain the paradigm’s origin but to highlight the extent and intensity of its rule. When the pattern is so firmly established, it also tends to become invisible.” Borgmann, *Technology and the Character of Contemporary Life* 104. Hubert Dreyfus says Borgmann does exactly what Heidegger hopes his readers will do, that is to find

device and operation is a decisive rift between the machine — its workings — and its ‘commodity’, which is here understood as its perceived material benefit: what it makes, enables or is for. His premise is that the technological machine is more present as the commodity it delivers: a central heating system *is* warmth for example. Further, the central heating device remakes warmth as “instantaneous, ubiquitous, safe and easy” the specific qualities that encapsulate for Borgmann the technological experience.²⁶

The sharp internal fault line separating technical machinery (or means) from the commodity (or ends it serves), enables products to conceal the machinery upon which they depend, so they are experienced as freely disposable and self-sufficient, making little claim on our faculties and releasing us from the burdens, and pleasures, of skilful comprehension.²⁷ For Borgmann, the split between machine and the commodity procured by it is a profound move against the truly integrated nature of the ‘pre-technological’ world. It represents a splitting in two of the fabric of life, and has accordingly wrought powerful changes in how we orient ourselves in the world.

This notion of the pre-technological or ‘traditional’ world refers to things, practices, concerns and experiences that Borgmann characterises as ‘focal’. These are for him healing things; things that ground, focus concern and restore one “to the depth of the world and to the wholeness of our being.”²⁸ Before the central heating device there was the family hearth. This was a focus of family activities, involving the felling of trees, sawing and splitting, hauling and stacking of wood and building a fire. The hearth provided a sense of community, an understanding of the lineage of resources and of seasonal rhythms. It embodied the effort and exertion of making, the exercise of skill and an acute sense of a situated place and time. Focal things ask for our

the specific phenomena about which he speaks. Dreyfus and Spinoza, “Highway Bridges and Feasts: Heidegger and Borgmann on how to affirm technology”.

²⁶ Borgmann, *Technology and the Character of Contemporary Life* 41.

²⁷ Borgmann refers to Robert Pirsig’s *Zen and the Art of Motorcycle Maintenance* as an example of the potentially rewarding nature of relating to technology through activities of repair and maintenance. Borgmann, *Technology and the Character of Contemporary Life* 47.

²⁸ Borgmann, *Technology and the Character of Contemporary Life* 206.

engagement and involvement, even pain and risk, and in turn we reap greater rewards from them. The central heating device on the other hand simply makes 'heat' available.²⁹ Its productivist, efficiency-engineered and scientifically informed 'mind-set' has isolated the commodity, wrenched it free of its context and in so doing has released the object from the bind of dependent relationships.

Borgmann does not restrict the expression of the device paradigm to technological machines. He anticipates the challenging complexity of biotechnological designing when he argues that technological availability also transforms 'traditional' things, which appear unchanged save for some radical improvements that await the user. Techno-scientific methodology analyses wine for the effects of chemical substances and physical processes on its taste and visual appearance. This enables wine's internal 'machinery' to be laid bare and makes available "(a) pleasantly grapey, smooth, light, fruity, and soft" beverage that is "clean, clear, limpid, and free of sediments".³⁰ Technological wine provides these qualities with less risk than did traditional wine, it is also cheaper to buy and less fatiguing to drink.

Technology's project, according to Borgmann, is the systematic and pervasive transformation of 'focal' things like wine or the hearth and the practices that surround them, into products that diminish or even veil life, even while they bestow their commodities abundantly. Without the commodity being connected to its contextual aspects, the nature of the thing and our experience of it are fundamentally reduced.

The device paradigm is a useful characterisation of the concealing-revealing dynamic we have previously discussed in relation to Heidegger. However it cannot explain the problems of the technological society in general. When Borgmann turns to the broader social context of the device paradigm, his argument risks falling into a poetics of unmediated experience.

²⁹ Borgmann, *Technology and the Character of Contemporary Life* 41.

³⁰ Borgmann, *Technology and the Character of Contemporary Life* 49.

In Borgmann's view, the rupture in focal things and practices effected by technology continues to widen: the device paradigm is now so amplified that people can live their entire lives in the foreground of technology barely aware of the impoverished state of their existences in which they have sacrificed full-bodied things interwoven with culture, nature and community, for an endless supply of mere commodities lacking in resonance and consequence.³¹

Focal practices and things on the other hand, speak in the voice of nature.³² They are a revelation in the foreground context — the difference in the quality of experience between eating in a fast food joint and enjoying a home-cooked meal with friends, or foregoing a guided bus tour and going for a solitary hike in the wilderness allows the “scales to fall from our eyes”, revealing a new depth and quality of radiant reality.³³ Borgmann, like Levin, is highly ambitious for the natural, reorienting power of this moment of revelation, of comparative learning. In Borgmann this moment instigates the political shift from commodities to focal concerns. The focal practice relocates technology from its concealing rule to its proper place in the equipmental domain, where it is able to contribute to the anchoring practice. Borgmann uses the example of the hiker's appreciation of the hi-tech gear that enables, augments and significantly ‘gives radiance’ to the focal practice of hiking. Such a practice resists the naturally “parasitic and voracious” character of

³¹ Borgmann, *Technology and the Character of Contemporary Life* 51.

³² Borgmann, “The Nature of Reality and the Reality of Nature”, *Reinventing Nature? Responses to Postmodern Deconstruction*, eds. Michael E. Soulé and Gary Lease (Washington: Island Press, 1995) 42.

³³ “Through the diversion and busyness of consumption we may have unlearned to feel constrained by the shallowness of commodities. But having gotten along for a time and quite well, it seemed, on institutional or convenience food, scales fall from our eyes when we step up to a festively set family table. The food stands out more clearly, the fragrances are stronger, eating has once more become an occasion that engages and accepts us fully.” Borgmann, *Technology and the Character of Contemporary Life* 205.

technology.³⁴ In these instances of ‘pruned back’ but powerfully ‘liberating’ technology, the original technological covenant is restored.³⁵

While Borgmann imagines there is a growing unease with the technological foreground and a desire to recover things in their depth, we may wonder how is it possible to sense the diminishment and violation of our lifeworlds affected by the device, if what is being missed or lost is so effectively concealed?³⁶ You can generate focal feelings by gathering the family around the hearth or dinner table, turning off the TV, recorded music and telephones, but you also consolidate the concealment of technology by these actions. The food is grown, transported and cooked; the table laid, the family gathered, all in technologically dependent and ecologically damaging ways. Equally, the desire for and production of authentic experiences — the labour and skill of cooking or hearth building, getting back in touch with nature — have increasingly been taken up at the centre of the technological project, as the growth of ‘ecotourism’ shows. And how do the myriad activities of symbolic repair, such as lawn mowing, car polishing, body building etc that render over the ‘scars’ of temporality but also centre many lives, fit into this schema?

Borgmann holds that the inexorable spread of the artificial device, including the flexible postmodern environments of hyperreality and, increasingly, the phenomenon of ‘information’, threatens the closure of experiences that are continuous with ‘the real’.³⁷ Always inseparable from their world and demanding a full bodily and social engagement, real experiences are of a different order to those given by the device, which are cut out of the flow of life. One emerges from the hyperreal environment and in that moment the

³⁴ Borgmann, *Technology and the Character of Contemporary Life* 247.

³⁵ “...the context of technology ...is restored to the dignity of its original promise through the focal concerns at its center.” Borgmann, *Technology and the Character of Contemporary Life* 247.

³⁶ Borgmann, *Technology and the Character of Contemporary Life* 56.

³⁷ Borgmann, “The Nature of Reality and the Reality of Nature”, *Reinventing Nature?* 38. In *Holding onto Reality: the Nature of Information at the Turn of the Millennium* (Chicago and London: The University of Chicago Press, 1999) Borgmann’s argument turns to the digital age of information and the decline of reality as ‘meaning’.

heightened experience of simulation is denaturalised, revealed as a sham. This revelatory context refuses the pervasiveness of design and overlooks the significance of its withdrawn functionality, which reworks the experience of focal engagement as an experience of constructed alienation.

For Borgmann, a thing is a thing only if “all or most of its physically discernable features are finally significant”³⁸, like the resonant truth of pristine nature. What is strongly evident in Heidegger’s reading of things however is their own agency — things exemplify and communicate ways of being and modes of conduct via their thinging. In thinging, presence drops away. Heidegger says, for example in “Building, Dwelling, Thinking” that while there is something correct in the idea of relating dwelling and building as ends and means, “...at the same time by the means-end schema we block our view of the essential relations...(f)or to build is in itself already to dwell.”³⁹ Building (designing) is informed by the experience of dwelling (already relating to designed things).

Hubert Dreyfus and Charles Spinosa remind us that while Heidegger did favour nostalgic, ‘old world’ and physically ingenuous examples — examples that Borgmann finds misleading and dispiriting in light of the technological society⁴⁰ — he also alludes to things that thing *even when we do not respond to them with full attention*, such as the modern, highway bridge.⁴¹ They underscore the crucial issue that each thing ‘things’ in its own way, with its own mode of revealing.⁴² As we have argued, televisual thinging is a complex concealing-revealing. It is no generous outpouring like that of Heidegger’s most famous thing — the wine jug — which is not just a useful earthen object that contains wine as fruit of the land and sun, but implies offering, giving, sharing around a table, and embodies and communicates these relations through use. The televisual does not openly gather and disclose its

³⁸ Borgmann, *Technology and the Character of Contemporary Life* 191.

³⁹ Heidegger, “Building Dwelling, Thinking” 146.

⁴⁰ Borgmann, *Technology and the Character of Contemporary Life* 200.

⁴¹ Dreyfus and Spinosa, “Highway Bridges and Feasts: Heidegger and Borgmann on How to Affirm Technology”.

⁴² Dreyfus and Spinosa referring to Heidegger, “The Thing” in “Highway Bridges”.

surrounds, but it is certainly path-building. The technological device, in its service provision, is not a radiant, engaging, focal thing in the sense Borgmann wants to communicate. It is however, undeniably a kind of thing that things in its gathering of the world as a standing reserve of materials, manufacture, labour and sign value. It is a pro-duct thrown forward in the world, even though it is characterised by the concealing quality of technology. In their particular modes of thinging, products create worlds. They are made, desired, promoted, taken up and used, disposed of and forgotten and at none of these stages is their reality diminished. The implications of thinging are lost in thought for which the growing horizon of the artificial obstructs the self-evident truth of nature.⁴³

Borgmann gives us important insights into the structure of forgetting: how commodities affect a dematerialisation of their apparatus by design, drawing attention to the fact that the separation between means and ends can be understood as both perceptual and material. However, he does not adequately account for the implications of this agency of design. There is something too passive about Borgmann's device paradigm, which not only excludes a reading of what such products do in fact gather and the worlds they create beyond their expressions as a device, but also abandons the world of devices.⁴⁴ As Manzini points out, "How is it possible to talk increasingly about 'superficialization' of experience, loss of the objects' physical and cultural character, matter reduction in favour of information while, on the other hand, the world is more and more saturated with things...?"⁴⁵

⁴³ Bruce Foltz, for example, says that the styrofoam container is "by no means a thing". Whilst itself lacking in presence, (possibly an example of 'good' design in Norman's terms), such a container does carry substantial ecological consequences, which an understanding of thinging helps to disclose. The disposition upon the made that attributes no critical attention to such things might now contribute to the abandoning of things to their objectivity. Foltz, *Inhabiting the Earth* 20.

⁴⁴ The commodity in Borgmann's analysis is also 'no thing'. He says that to consume is to "use up an isolated entity without preparation, resonance and consequence." Borgmann, *Technology and the Character of Contemporary Life* 51.

⁴⁵ Manzini, "Towards a new ecology of the artificial environment: Design within the limits of possibilities and the possibilities of limits." Unpublished lecture, Domus Academy 1991 1.

In wanting to distinguish the radiance of true things, Borgmann clears the decks of the obfuscatory, morally compromised devices that attenuate experience, distract, disengage and fragment even while his analysis refuses to give them ontological status. This tendency gains in strength as the philosophy of technology turns purposefully toward the issue of sustainability.

Aidan Davison, who writes on technology and sustainability, says “I see only deceit and conceit in attempts to design and engineer the good life.”⁴⁶ After Borgmann, Davison theorises the world we have built and live in as ‘deformed’, somewhat out of balance.⁴⁷ This notion of deformity gathers resonance when Davison refers to “the pain and love bound up in being related to my technological world as a parent... struggling in the jaws of technology.”⁴⁸ For him, design fragments family life and the means of this fragmentation include:

multitudinous factories producing even greater multitudes of inconspicuous artefacts, such as milk formula, plastic nipples, disposable nappies, cots, prams, stuffed animals (curiously enough, the majority of whose living counterparts were slaughtered long ago), television programs, videos and books, that display how the technological society cares for, shapes, and orders its young.”⁴⁹

This litany of products composes an aesthetic of artificiality that Borgmann would no doubt also find alienating and contrary to the focal practice of parenting. However certain sustaining environments test the intimate aesthetic of Davison’s ‘world worth caring for’, from which all such devices are expelled. What would he have to say about the neonatal intensive care ward of any large hospital, which is overabundant in such ‘deformed’ products, or the grateful hands reaching for such artificial sustenance in community relief programs?

⁴⁶ Davison, *Technology and the Contested Meanings of Sustainability* 212-13.

⁴⁷ Davison, *Technology and the Contested Meanings of Sustainability* 93 – 115.

⁴⁸ Davison, *Technology and the Contested Meanings of Sustainability* 195.

⁴⁹ Davison, *Technology and the Contested Meanings of Sustainability* 171.

While many of the pleasures of the world he describes may indeed be comparatively ‘rich’, the problem of the technological society lies not in its depletion of focal things and practices, but in the complex sustaining quality of the naturalised artificial and the experiential satisfactions our designed worlds provide. As long as the negative transformations effected by technology are understood as implicitly surmountable, the project of cultural change is unable to move beyond reconciliatory and ultimately aesthetic models of reform, recovery and restoration.⁵⁰

Indeed, in the twenty years since Borgmann first articulated the device paradigm, the ‘instrument-specific’ nature of desire has escalated exponentially, while the discourse of cultural change remains a dream running alongside culture, like an incessant, yet mostly disarticulated conscience.⁵¹ The problem goes beyond “a juxtaposition of alluring surfaces and troubling depths”; it is one of ontological designing, in which the need for an other way of life more sustaining of the future, is largely not felt.⁵²

As the snap shot that opens this chapter attempts to show, it is a struggle is to keep sight of the fact that the authentic joys of our relationships emerge in and are supported by artificial worlds of design, with which we feel “at home”.⁵³ People are not led astray or away from the call of focal engagements by false things, rather designed things are incorporated; designed things entail rich, cultural worlds that legitimate human desire. Certainly, the world we live in is an irreducibly different shape to that of the past. Yet we cannot re-centre ourselves in a pre-technological world. We can imagine this

⁵⁰ This is clear in the following passage: “Orientation in the inner cities does not have to be invented or produced, it needs discovery and nurture, the restoration of historic buildings and the preservation of open spaces around them. The recovery of green areas along river banks and lake shores and the connection of these focal points through pleasant walkways.” Borgmann, *Technology and the Character of Contemporary Life* 244.

⁵¹ “Abstract general ends — health, safety, comfort, nutrition, shelter, mobility, happiness and so forth — become highly instrument-specific. The desire to move about becomes the desire to possess an automobile; the need to communicate becomes the necessity of having telephone service...” Langdon Winner quoted in Borgmann *Technology and the Character of Contemporary Life* 62.

⁵² Davison, *Technology and the Contested Meanings of Sustainability* 188.

world with the help of historical stories and records, we can create experiences for ourselves that carry its trace, but it will never again become our 'home'.

The desire for the engaging, binding qualities of the moral life in Borgmann and Davison have ironically become driving concerns for the design of new devices that make these qualities more easily available and renew the authentic promise of technology. Following Borgmann's argument, Verbeek and Kockelkoren say design needs to encourage more engaging relationships, to call attention to things as material objects instead of signs:

If we want our attachment to be directed toward objects and not only toward their meaning and the lifestyle they represent, it would be wise to design products from the perspective of their engaging capacity. This could be done by healing the split between machinery and commodity, thus creating a revaluation of the machinery of products. Product machinery should be freed from its withdrawal and be visible, accessible, and understandable again. Where possible, dependent objects should be created instead of quasi-autonomous objects.⁵⁴

This notion of healed things and whole things becomes very important in relation to the question of design ethics and design quality. It carries a strong ambition for design's capacity to produce meaningful objects that can bestow quality of life on human beings. The ultimate destiny of the focal thing in Borgmann is the leverage of change. He says "we should measure the significance of developments about us by the degree to which focal concerns are beginning to flourish openly or continue to live in hiding."⁵⁵ The holy grail of this thinking transferred to the design context is the product that can become an ambassador of difference, and that is capable of leveraging difference.⁵⁶ The object in much design thinking represents the fruition of design insight in a

⁵³ "We believe we are at home in the immediate circle of beings. That which is, is familiar, reliable, ordinary." Heidegger, "The Origin of the Work of Art" 54.

⁵⁴ Verbeek and Kockelkoren, "The Things that Matter" 41.

⁵⁵ Borgmann, *Technology and the Character of Contemporary Life* 249.

⁵⁶ Van Hinte, *Eternally Yours* 22.

representational capacity. Ultimately, such as is the case for product semantics, the high-quality object ‘correctly’ reflects the true human context. Design, like art, is a practice subject to the expectation that ultimately its value should be finally discernable, embodied in objects. There is a strong sense that theoretical discourse is merely a deliberation, preparation and rehearsal for this ineluctable demand for realisation.

It is typical of this approach that the question that people apparently ask most frequently of the *Eternally Yours* project is “can you give me some examples of products that comply with *Eternally Yours* standards?” van Hinte replies: “Unfortunately the answer is still: no we can’t. There are, however, many examples of products and services that can be considered satisfactory in some respects.”⁵⁷ *Eternally Yours* suggests that this poverty of objects reflects the nascent state of products able to endure in material and cultural terms. However, there is a slightly sheepish element to this reply, which betrays that in design culture at least, this outcome is highly unsatisfactory. If we are not able to consolidate ideas in material forms, then the usefulness of such explorations for the designer would seem limited. Conversely, the few examples that *are* put forward (Verbeek and Kokelkoren for example laud a heating device that works via a focal practice of communal engagement at the close of their essay) tend to fall short of fully embodying the wealth of ideas invested in them, the *promise* of the problem.

It is possible and as we shall see desirable to understand whether or not designed things embody interpretations that can be judged as forethoughtful. The poverty of design’s response to the call for more sustainable, engaging products can be attributed in part to the limited nature of the interpretations invested in them. However, the notion that the product form and the broader culture of production circumscribe the expression and capability of design, needs to be contested.

There is no shortage of products that can claim to have made some form of a difference. The differences made by products and the embodiment of

difference in the product form, are however not the same thing. The deliberate project of generating cultural difference by design, is still another. Product innovation in a consumer-driven framework, which comprehends design solely in terms of sign value, confuses these claims. The distinction between design and visual styling fades away. In the commercial/industrial setting, innovation must be realised in the form of the product, even when the difference actually lies in how products ‘disappear’ in their shaping of thinking and practices. The product user is inducted via this object orientation into learning to intuit and desire quality as a visual characteristic, and over-looking existing facilities and new service-based solutions, even when these may in fact meet their perceived needs more effectively.

As we have discussed, Winograd and Flores argue that this object focus is wrong: design(ing) actually occurs in language. Design is a hermeneutic practice and happens in interpretations and conversations before, around and after the production of new things. For Winograd and Flores, technology is a domain fraught with powerful cultural meanings. Rather than referring to the mysteriously self-enclosed artifacts functioning around us, technology is “a domain of anticipation”.⁵⁸ Indeed, there is increasing interest amongst technological innovators in the economic vision of strategic foresight and talk about the ‘future-proofing’ of still relatively costly hardware.⁵⁹ A ‘distinction’ or new perspective is first made in words and then shared by a design team. Innovations are speculations or opportunities within the frame of established practices, which then set the scene for the development of tools in support of speculations. In this light, the product form is a kind of *decision*, which shapes and directs the flow of energy, materials, interpretations, practices, desires and so on.

⁵⁷ van Hinte, *Eternally Yours* 22.

⁵⁸ Fernando Flores, *Introduction: Business Concerns for Technology* (Emeryville: Logonet Inc, 1987) 18.

⁵⁹ See for example Nick Marsh, Mike McAllum and Dominique Purcell, *Strategic Foresight: The Power of Standing in the Future* (Melbourne: Crown Content, 2002).

Let us consider an example of object-oriented innovation. The following short history reveals the limited horizon of object-oriented designing as it moves between conversations, signs, thing(ing) and practices.

The iMac computer, Apple's phenomenally successful 'consumer computer' was launched in 1998 at a time when Apple was radically losing market share. The iMac is an interesting case of the general shift to dematerialisation in computer design. Its strangely heavy visual presence became a kind of bridge to lead the consumer, still attached to the domain of things and tangible forms of communication, into the discourse of the digital future.

The iMac was heralded as innovative because of two things: it found a new market for Apple and it made the computer strange again. The iMac's sign value was its foregrounding of 'user-friendliness': it extended the comforting, non-tech appearance of the graphical user interface (first used in Apple's 'Lisa' PC in 1983) to the surface of the machine. The look of the iMac managed to combine both the throwaway pop aesthetic and the "shallow functionalism"⁶⁰ of the streamlining era, making them endearing, quaint and tinged with nostalgia for the early years of product styling.⁶¹ It declared itself as an expression of different thinking ('Think Different' was the tag line for the advertising campaign)⁶² and yet, in recognition of the cultural presence of technology as functionally secretive, it was very careful about promising to do the thinking for you. Apple understood that one does not just accumulate things, but meanings, actions, practices, ways of living and working that are attached to things. The iMac therefore needed to appear within pre-existing domains of concern, as a new opportunity within familiar practices of shopping, screen based entertainment and familial activity. What the iMac was able to achieve, by reaching those who had never owned a computer or been on-line, was to

⁶⁰ Verbeek and Kockelkoren "The Things That Matter" 31.

⁶¹ Harris, *Cute, Quaint, Hungry and Romantic* 50.

⁶² The campaign used images of prominent pop cultural 'thinkers' such as Einstein and Picasso, and brands them with the Apple logo.

present as a mode of immediate social and cultural empowerment within these domains.

When it was launched in 1998 it was, according to one website ‘the computer to bring Apple back from the brink’; it was voted ‘Machine of the Year’ by *Time Digital* and ‘best designed product of the year’ by *USA Today*. The iMac with its five colour ‘identities’ began making appearances as part of the domestic décor in home/lifestyle magazines, an antidote to the purely functional office aesthetic. It was claimed as the decorator’s friend, an inspiration for the design of rooms full of other translucent, colourful, plastic things. In Tanqueray’s *Eco-Chic*, the iMac is exemplary: “A brilliant combination of the hi-tech and the human, the colourful, personable, shapely iMac and iBook hopefully heralds the start of a new era of computer design, one in which the human element is no longer neglected”⁶³ The ‘humanising’ and engaging iMac promised to overcome the uniformity of the product environment. From August to December 1998, Apple ran the biggest consumer computer campaign in history that premiered, appropriately enough, on the Wonderful World of Disney. For each of the 400,000 iMac’s Apple wanted to sell by the end of 1998, there was an advertising budget of \$250.⁶⁴ More than 15 million copies of a 12-page colour product catalogue were inserted in major magazines (more than double the amount of inserts Apple had distributed in the past). Billboards went up in 10 US cities, and eventually internationally, featuring a large photo of the iMac in configurations that completely did away with denotation (the iMac was unrecognisable as a PC), with one of the following headlines: “I think, therefore iMac,” “Chic. Not geek,” “Sorry, no beige,” “Mental floss” or “Yum.” Apple’s grammatically novel “Think Different” ads had already started to flood magazine back covers, city billboards, television and cinema screens internationally.

This resource intensive rhetorical moment had a lifespan of less than one year. By then, the problems with the design-in-use of the iMac, (which

⁶³ Tanqueray, *Eco Chic: Organic Living*.

⁶⁴ Tom Dunlap, CNET News.com August 14, 1998.

paradoxically was said to be all about the user) had emerged, and the 'speculative texts' that had lauded it set about killing its sign value.⁶⁵ The stacks of phonebooks that style conscious designers had to pack under the machine to bring it up to appropriate height, now became visible;⁶⁶ the small screen was likened to squinting and peering through a key hole and the mouse was deemed too small, flimsy.⁶⁷

In addition to these obvious problems, the iMac was playing a game of Chinese whispers. The aesthetic virus it had spawned was spreading; generating a rash of technological clones that relinquished the utilitarian techno-aesthetic for organic-shaped injection moulded plastic housings, across many product 'breeds'.⁶⁸ The iMac look in overdrive quickly diminished its designer preciousness and necessary "breathing space".⁶⁹ It also prompted a tendency to offer previously single models of other things in rainbow multiples of five. A standout Borgmannian example here is the Sharp Lapiz television, which was advertised as a way to restore family harmony by servicing family members with their own private colour-coded television.

Aside from its overt nod to streamlining (it was also called the new Volkswagen when it arrived — this company responded opportunistically by styling the 'new Beetle' in 'eight delicious flavours'), the iMac's 'water clear' housing gestured towards dematerialisation, the ideal of immateriality made

⁶⁵ This is a term used by Fernando Flores to describe the research, trade and marketing journals (and one might add websites) that offer the observer of technology valuable insights into the conversations that surround technological innovation. Flores, *Introduction: Business Concerns for Technology* 12.

⁶⁶ Cozo, a Japanese company seized the opportunity to sell multi-coloured 'usability enhancing' iMac stands in response.

⁶⁷ By 2001, the IT media declared the iMac, with its 'primitive' 15-inch monitor ("imagine trying to view the Sydney Harbour through a keyhole and you've pretty much got the idea") 'not quite the fashion statement it once was.' Darren Yates review of AppleiMac SE in "Icon", *The Sydney Morning Herald* May 19-29, 2001.

⁶⁸ Examples of Korean copies: eMachines' eOne computer was one of the first PC Mac clones that looked just like the 'Bondi Blue' iMac. Apple sued Emachines in 1999. Apple also sued Future Power for creating the E-Power, another computer modelled on the iMac and available in the same translucent colours but named after gemstones instead of fruit. Apparently there was at the time no precedent for the design of a computer being used as a trademark or copyrightable item. Aside from computers, there was a range of other iMac-like products, included a new smooth-edged instant cameras from Polaroid, mini analogue TVs, telephones, pet beds, candy bowls, and stuffed iMac toys sold through eBay.

material. A leading New York designer commented, “I started working with translucent plastics because I believe there is a poetic relationship between the material and the dematerialisation of the object. As soon as you can see through it, you reduce the visual volume of the product.”⁷⁰ The iMac’s transparency aestheticised the ‘ready-to-hand’ absorption of things into their working environments. You are invited to gaze at the innards of the machine, but not to engage or tinker with them.

While iMac’s styling was applauded as innovative, its speedy symbolic exit to make way for new models pushed techno-aesthetic obsolescence to new heights. Baudrillard calls the model a pattern of collective and mythological projection — it hides the series it implies. And while it is with the serial object that one lives, it is the model that achieves a referential status, becomes the archetype that the eye and mind are tuned in to.⁷¹ The telegenic product enters the scene as though it is the first and only of its kind and leaves in the same way — it is literally made unaware of its ecological trace and the material detritus of the ‘copies’ in its wake. As Guy Debord writes, “(e)ach individual commodity fights for itself, cannot acknowledge the others and aspires to impose its presence everywhere as though it were alone.”⁷²

The all-in-one, stand-alone design (monitor and computer enclosed in the one unit), clean lines and hidden away cables and parts, symbolically disavowed the relational dependency of all electronic devices. But it also made the machine impossible to upgrade.⁷³ It had no expansion slots, and in an assertive move to bring technological futures into being, no floppy drive (though a net discourse emerged about how to create an illegal floppy drive for

⁶⁹ Baudrillard, *The System of Objects* 61.

⁷⁰ Helen Greenwood, “See-Through Society”, *Sydney Morning Herald Spectrum*, March 4, 2000.

⁷¹ Baudrillard remarks in a note: “When Brigitte Bardot hairdos were all the rage, every girl who followed the fashion remained unique in her own eyes, because her point of reference was never the thousands of other who looked exactly like her but, rather, Bardot herself sublime archetype and fountainhead of uniqueness.” Baudrillard, *The System of Objects* 184.

⁷² Debord, *The Society of the Spectacle*, 43-4.

⁷³ The all-in-one design of the iMac meant that if something went wrong with the monitor, the whole machine was implicated. It also meant you had to work around an internal monitor to

your iMac). The secret the iMac was passing on was certainly not one promoting intergenerational compatibility. By 1999 already 4 new iMac models had come and gone, each outdoing the predecessor whose eventual possible upgrade was underpriced by complete replacement.⁷⁴

While the iMac was not futuristic in the way that streamline era products were, it was Futurist in that it demanded the obsolescence of the past.⁷⁵ The iconic model conceals the conditions of its design and manufacture as well as its coming afterimage: hundreds and thousands of iMacs languishing in basements and cupboards, bits of iMacs, tons of unreusable multicoloured plastic casings and circuit boards. The iMac had no context of upgrade, of modular ‘self reflection’ and improvement; it was, in short, a situated instance of televisual worlding. It was also, however, a ‘successful’ design, an icon that embraced the role of overcoming contextual meanings.

It is a testament to the materially transformative power of sign ecologies that you can actually sit in front of a 15 year old WANG computer that is in excellent repair, with its ergonomically positioned, easy to manoeuvre, concertina swivel neck (highly reminiscent of the new iMac with the LCD display); its well-made, PVC and fabric protective covers that actually came with it still intact, and think about it in the past tense: you ‘were’. Now that it has nothing in the world to connect up to, it is design out of time.⁷⁶

The thing shines in its iconic moment. But the rhetorical sign quickly abandons the thing, allowing it to slip into forgetfulness. De-signing the madeness of the icon is crucial for revealing what happens when things are, as

add RAM, replace a hard drive, or install expansion cards and you couldn’t attach an external monitor.

⁷⁴ It would be uneconomical to install DVD and some of the other new features into an ‘old’ machine and by early 2000 you couldn’t buy memory for some of the early models.

⁷⁵ Flores says: “When we speak of technology we also have some simultaneous understanding of time associated with the technology. For example, to have tools and equipment is to participate in the conversations concerning obsolescence, the innovation of new tools, and speculation of new practices, which may eliminate the use of current tools. We assess the time when we say we must act in order to keep up with these innovations.” *Introduction: Business Concerns for Technology* 15.

⁷⁶ The afterlife of such a computer is limited to use as a film prop or as an exhibit for the nostalgic gaze in a hardware museum.

Dreyfus and Spinoza put it, “thinging but not shining”.⁷⁷ The sign/world ‘healing’, the revelation about quality, cannot be carried out at the level of the object, cannot be held in constant presence before us. The product is always already split, ‘unhealed’ by the mutually responsive relationships between the product, its setting and user.

Design is not primarily about objects or even the conversations that precede them. Design is our second nature, allowing for changes in our ways of living to become natural. It is a structuring of forgetting — forgetting both objects and the reasons and interpretations that produced them. The influence of design happens precisely in this forgetting, when design ‘disappears’. The appearance of the product, and how it interfaces with users, has to be assessed in this regard not from the position of being ‘correct’, but in terms of how it signals the becoming-natural of design — what it tells us about its pending disappearance into the half-light of habitual engagement.

Elaine Scarry’s understanding of the designed thing as a force of human imagination helps us to further explicate this new context of assessment. For Scarry, the human being is not lost in a technological world, rather human interpretations are spread out into it, they *inform* rather than deform. There is no immunity in her analysis of the interaction between things and people. The designed thing is “a fulcrum or lever across which the force of creation moves back onto the human site and remakes the makers.”⁷⁸ This interpretation recognises the environment as alive with design intentions, amplified and extended in things.

In her descriptions of world-making, design causes two transformations: “(F)irst from an invisible aspect of consciousness to a visible but disappearing action; second, from a disappearing action to an enduring material form.”⁷⁹ The made thing is only the midpoint in the total action of design, existing between the projection of making and its magnified

⁷⁷ Dreyfus and Spinoza, “Highway Bridges and Feasts”.

⁷⁸ Scarry, *The Body in Pain* 307.

⁷⁹ Scarry, *The Body in Pain* 290.

reciprocation or ‘gift’.⁸⁰ The making of a winter coat, for example, is an act of wishing human susceptibility to cold gone.⁸¹ This wish is embodied in the coat, the desire to impart well-being sewn into it. Further, the coat is capable of reciprocating a great deal more than was invested in it, in its potential longevity and transferability. Designed things are world-altering differences that project internal human characteristics of sentience into an indifferent world. Far from being indifferent themselves, designed things in Scarry’s analysis make an indifferent world turn toward us.

This analysis also allows insights into the dangerous ‘empathy’ of the televisual and its ontological designing. For the positive gift of design can also reciprocate and amplify ignorance and destruction. The madeness of the constructed thing is often well concealed. Some made things — a god is Scarry’s example — depend upon their madeness being hidden away. In the case of the god “it will be important that the earlier arc of action be not only *unrecognisable* but even *unrecoverable*.”⁸² The hiding of madeness is also integral to the telegenic product. The iconic, promotional image is a performance of autonomy in which all traces of human signature are rendered over. It is unsurprising that many a mass produced thing — whether place, object or person — is received as a depreciation of the magical televisual appearance of the icon.

The aeroplane, in a god-like fashion, depends upon the concealment of the arc of projection — the “seams and cutting marks that record and announce its human origin”.⁸³ The exposure of design in the situation of flying could threaten to fill the imagination with horror, revealing the vulnerability of human participants and disabling the idealism which holds its design together.

The world is made up of a ‘surfeit’ of things within which the interpretations of making are hidden. Made things have specified the nature of

⁸⁰ See Clive Dilnot, “The Gift.”

⁸¹ The made thing is “the structure of the act of perception visibly enacted”. Scarry, *The Body in Pain* 290.

⁸² Scarry, *The Body in Pain* 312.

⁸³ Scarry, *The Body in Pain* 312.

human imagination and are “now actually ‘felt’ to be located inside the boundaries of one’s own skin where one is in immediate contact with an elaborate constellation of interior cultural fragments that seem to have displaced the dense molecules of physical matter.”⁸⁴ We are *involved* in a naturalised artificial environment in which existing objects sponsor new objects, and “human agents ... are now caught up in the cascade of self-revision they have themselves authored.”⁸⁵ Through designed things, people also become implicated in each other’s sentience; relationships are *conducted* through things. Naturally, we take advantage of design’s promise to provide immunity and autonomy.

This is somewhat of a reversal of the interpretations of the technological society we have thus far encountered, in which devices obscure rather than revise the self. Borgmann shows that the telegenic object effectively conceals its madeness, and yet what is more significant is that this concealment is integral to the fact of its becoming ontologically incorporated, revising and remaking its users.

This remaking is not only secretly cultural — informing desires, expectations, judgements and even interpretations of others’ sentience — but in many cases is also secretly biophysical, as new dangers associated with the (in)visible power of previously insignificant materials and energies emerge in our increasingly complex designed environments. In the already televisually fraught case of electromagnetic radiation, for example, the environmental surfeit of technical objects, which are individually designed to be immune to their environmentality, are engaged in creating an (in)visible environment with a new, spatio-temporal architecture. Warning signs suggest that the ‘on’ mobile phone, which has already revised where we are in a cultural sense, will also potentially interfere with the pace maker or the ventilator, sparks a fire at a petrol bowser, or mess with the flight controls of airborne devices. While we are directed to ‘please turn off your mobile phone’ this request has no clear

⁸⁴ Scarry, *The Body in Pain* 256.

⁸⁵ Scarry, *The Body in Pain* 321 - 23.

explanation, so the cultural response is equally hesitant. On the other hand, an opportunistic market for protective devices becomes established, which allows people to cover their bases with objects in the face of environmental ignorance.⁸⁶ In this new, ‘hertzian’ environment of technical installations, the use of a ‘jammer’ constitutes a form of trespass.⁸⁷

It was Scarry’s recognition of the complex implications of this new environment that caused her to transgress the ostensible disciplinary contexts of her Harvard professorship in 1998. She entered the arena of the televisual press with a controversial article in the *New York Review of Books* that raised very public questions about the TWA 800 plane crash off Long Island, New York in 1996. In this article she redrew the boundaries of the investigation beyond the twisted metal of the plane being painstakingly reconstructed in a Long Island hangar, to include the ‘goings on’ of ten military aircraft and ships in the vicinity of TWA when it crashed, demanding that the unauthorised ‘argument’ that may have taken place between these devices be retraced and revealed.⁸⁸ Her article draws attention to the unnameable range of consequences that emerge from minute and incremental human decisions, which are then amplified and extended by design. Our environments are alive

⁸⁶ ‘Phone Shield’ is one device amongst many that promises to immunise users against the effects of electromagnetic radiation. In this case, to protect the head from emissions from a mobile phone. The advertisement urges the prospective buyer to ‘show you care’ by giving the product to mobile using friends and family.

⁸⁷ Anthony Dunne and Fiona Raby, *Design Noir: The Secret Life of Electronic Objects* (Berlin: Birkhauser, 2001) 27. I look at the issue of cumulative impacts in (in)visible electromagnetic environments in “Our Electromagnetic Environment: Keeping in Touch”, EcoDesign Foundation *Information Ecology* November, 1998.

⁸⁸ Scarry asks: “What equipment was switched on? What instruments were turned off? What was the sequence of those acts? We need to know the answers to these questions if we are to determine whether electromagnetic interference — a sudden pulsing or spiking in the electronic environment — may have caused TWA 800’s electrical systems to go haywire, as is compatible with the fact that the transmissions from the transponder on its belly and the transmissions from the cockpit both ceased at the same moment, as did the black box (which often continues to record, even in the late stages of a plane’s catastrophe).” Elaine Scarry, “The Fall of TWA: The possibility of electromagnetic interference,” *The New York Review of Books*, April 9, (1998): 59-76.

with these (in)visible projections, the cumulative effects of which remain both unthought and unthinkable by science.⁸⁹

This situation brings to light the need for design to extend beyond its object orientation, to take responsibility for its forgetting and the relations of trust that this implies. This need becomes ever more pressing. The becoming-natural of a critical mass of devices, moving steadily to a receptive culture that is always indiscriminatingly ‘on’, cannot be previewed by the scientific practices of impact assessment on the design planning end or on forensic investigation in the aftermath of an accident, particularly if neither of these make room for a learning capacity.

Scientific investigation in the calculative tradition depends on predictive models, on research that can be iterated. It must focus on per unit instances (the radiation levels of one mobile phone tower; the efficiency and emissions of one car), which also then becomes the basis for assessments of product liability. It is not in the business of making ‘educated guesses’, advocating intuitive responses or precaution, or speculating on the exponential effect of its findings. Thus the ability to anticipate and respond to the relational and dynamic situation of multiple product systems speaking at cross-purposes is beyond the scope of the replicable study. As one scientist confronted with the environmental ‘moment’ of Scarry’s investigation replies, “the calculation problems are intractable”. We are increasingly abandoned to the unknown things that are themselves abandoned in and to their objectivity.

In Scarry, the resolute humanist ‘spirit’, which guides Levin and Borgmann is reworked, cleaved open by designed things that rework the natural/artificial division. Her work gives us important insights into the gift of the artificial world, and how it sustains and remakes us. This affects an understanding of the product beyond the mere accoutrements of sign value.

⁸⁹ At the final hearing on TWA 800 in 2000 the issues Scarry raised were dismissed, not however before two subsequent crashes occurred involving the same military zone that TWA 800 had flown through. Scarry, “TWA 800 and Electromagnetic Interference: Work Already Completed and Work that Still needs to be done,” *The New York Review of Books*, Oct 5, (2000) 10 Dec. 2004. <www.nybooks.com/articles/13896>

The designed thing, as a materialisation of human interpretation, actually supports life, assisting, amplifying or altering the “felt-experience of sentience”.⁹⁰ Yet this also means that human sentience is irretrievably altered by design, taken over by it.

Design is the structuring of forgetting — it relieves us of our sentience. Whether this relief is ethical or responsible, depends on an understanding of design that exceeds the prevailing technical interpretation. The practice of design needs to follow the descriptive contexts we have explored to rematerialise the cultural transformations of design.

Borgmann urges: “designers are charged with making the material culture conducive to engagement.”⁹¹ Rather than taking this as making anew, we take this to indicate a much-needed shift in perspective on the existing culture. This demands a different culture of designing, one that is open to the prevailing design agency of interpretations mediated by the accessible environment. The product of design is a form of knowing. It needs to be reclaimed as such. As Vilém Flusser suggests in his meditation on the ethics of industrial design, the production of things can no longer be considered ‘pre-ethical’ and ‘value-free’ in the complex relationality of the televisual public sphere, in which institutional transparency, public trust and competence have departed.⁹²

The projected task of de-sign in this respect is of critical importance to the professional designer who, in manipulating icons, projecting markets, servicing clients and inventing signs, is caught up in the visible and quantifiable. The idea that designers design in conditions of (in)visibility — in both a hermeneutic and technological sense — is counter-intuitive. The responsibility embodied in design must be met with a responsible, responsive *designing*. This depends on putting something in the way of the blinkered vision of telegenic designing and the autopoietic generation of new things —

⁹⁰ Scarry, *The Body in Pain* 283.

⁹¹ Albert Borgmann, “The Depth of Design” in *Discovering Design* 18.

⁹² Vilém Flusser, *The Shape of Things: A philosophy of design* (London: Reaktion, 1999) 68.

learning, as the project of *Eternally Yours* suggests that we should, from design environments that are already seasoned with experience.

CHAPTER 11. TECHNICAL RELATIONALITY

In this brief, ‘bridging’ chapter, we position the context of ‘technocratic sustainability’ that has no cause to take notice of our work.¹ Mainstream design goes on regardless of theoretical deliberations, which are always a great deal more fragile and dynamic than scientific assertions. This culture doesn’t appear to need theory because it has its own modes of reflection and ‘continuous improvement’, including strategies of environmental management. Here we consider the theory and operation of the dominant practice of product-based environmental management, Life Cycle Assessment (LCA).² In our critique of LCA as a method, we reveal the fragility at its core and also find in it a lesson about how a particular disposition is acquired through practice. We connect this to Donald Schön’s insights about the ‘reflective practitioner’ in order to position our strategic intervention into object-oriented designing.

The environmental irresponsibility and unsustainability of consumer culture is news of increasing currency in the televisual domain of public knowledge. The epic story of climate change, for example, has been effectively linked to everyday actions and has brought glimpses of the destruction of the future into view.³ This visibility has demanded a wide scale industrial response. At most stages of the product’s life various actions have now been

¹ This term is Davison’s. It refers to the transfer of technology’s ‘promise’ to the project of sustainable development in the last couple of decades. See *Technology and the Contested Meanings of Sustainability*.

² LCA is part of the International Standards Organisation’s suite of environmental management standards, ISO 14000, initially established in 1996.

³ See for example Myerson, *Ecology and the end of Postmodernity*.

undertaken or promoted that demonstrate a subscription to the framework of ‘ecologically sustainable development’ (ESD) and its self-evident bases.⁴

With comfort, governments can establish environmental policies, attend environmental summits, and be televised trudging through old growth forests with environmental lobbyists. Manufacturers can implement ‘cleaner production’ and ‘extended producer responsibility’ strategies in addition to the legal requirements of managing toxic wastes and practising the principles of basic social equity. Industrial designers, interior designers, architects and engineers can learn about the environmental impacts of the manufacture, use and disposal of their materials and sell this knowledge to clients in their practices of building and making. Retailers can take measures to reduce and reuse packaging materials, perhaps in a relation with manufacturers or distributors, and make opportunities to capitalise on these actions. Users of products are invited to feel good about their ‘consumption’ by practicing curbside recycling, bringing packaging back to shops for reuse, and buying energy rated, recyclable or in some other way environmentally labelled items, or by subscribing to renewable energy providers. There is a reasonable consensus that these cosmetic actions are at best making no difference and more likely are making things worse — the problematic consequences of the ways in which we currently live, which are a problem at the level of basic life requirements and not just for the current Western ‘standard of living’, continues to escalate.⁵ All such strategies are circumscribed by a fundamental optimism in relation to technological efficacy and the unquestioned ‘business-as-usual’ growth of productivism that sustains product-based well-being.

Since the advent of ESD and the Brundtland Report in the 80s, a range of targeted environmental management methodologies have gained ground in the framework of the scientific world picture, becoming global standards of

⁴ Davison presents the recent history of the political incorporation of ‘ecomodernism’ in *Technology and the Contested Meanings of Sustainability*.

⁵ See for example Chris Ryan, *Sustainable Consumption: A Global Status Report*. This report sets an agenda for dealing with the essential worsening of the problem of ‘unsustainable consumption’ in the ten years since the 1992 Earth Summit and setting of Agenda 21.

measure. These methodologies manage the non-fit between particular systems and their environments predominantly by streamlining the efficiency of production. LCA, derived from the science of material and energy flow analysis and a history of the location specific assessment of chemicals and environmental risk, is a technique that maps the materials and energy flows generated in and by the lifespan of a product, from ‘cradle to grave.’⁶ It considers the stages of raw materials extraction and processing, manufacturing, assembly, packaging and distribution, use and post-use (disposal, reuse, recycling, remanufacturing). At each of these life stages, LCA calculates the environmental impacts of a particular product-system’s material and energy requirements in relation to existing data. The findings of LCA are used to compare one product system with another that performs a similar function (for example, a disposable shaver with a reusable shaver), or is brought to the front end of the design process to improve the efficiency of future product iterations. This is sometimes referred to as the ‘cradle-to-cradle’ approach.⁷

The object of LCA is not simply the product itself, but the system of production, use and disposal needed to provide the product.⁸ Because of the potential complexity of the inventory of impacts in this system, the key decision to be made at the start of an LCA is where the boundaries of the product system will be set. Open-ended expenditures, such as those attached to individual styles of use (for example, the amount of water and electrical power used to shave) are often removed from the analysis, as they are subject to too many variations and cannot provide a sound basis for comparison. In short, decisions regarding what belongs to the system and what belongs to its environment need to support the possible conduct of the methodology.

⁶ See for example Bo Pedersen Weidema, *Environmental Assessment of Products: A textbook on Life Cycle Assessment* (Helsinki: The Finnish Association of Graduate Engineers, TEK 1997).

⁷ This approach is central to theories of industrial ecology that explicitly reject the concept of waste. See for example T.E. Graedel and B.R. Allenby, *Industrial Ecology* (New Jersey: Prentice Hall, 2003) and William McDonough and Michael Braungart, *Cradle to Cradle* (New York: North Point Press, 2002). This text stresses eco-effectiveness over eco-efficiency — it is not fewer products but more appropriately produced products that will avert waste.

⁸ Weidema, *Environmental Assessment of Products* 9.

LCA is incapable of making claims that are counter-productive. It can tell you that one 'self-cleaning' shaver is better than another, but it can't undermine the implicit 'good' of the new device. It can't suggest that neither shaver are as good as returning to using the razor your father gave you and its pleasures-in-use, nor recommend that you grow a beard. Rather than offering a critique or a redirection, LCA tends to 'symbolically detoxify' industrial activities. Indeed, from a very early stage in its history, LCA studies were used by individual companies to substantiate product claims (the winning self-cleaning shaver can now market itself as an 'eco' shaver).⁹

Technical methods such as LCA continue to construct and deal with problems in a way that renders them immune to the unsecuring of ecological relationality. As Beck points out, the tendency to counter the effects of data by means of contradictory data offers but a momentary consolation that is inconveniently ignored by ongoing environmental problems.¹⁰ There is an inevitable problem in that research, led as it commonly is by the availability of data, can only move ahead 'mistakenly' or 'correctly' according to the plan laid out in advance. There is no way forward but by reiteration, "...chasing after the future so as to work out a picture of it through calculation in order to extend what is present and half-thought into what, now veiled, is yet to come."¹¹

As Heidegger's reflections on the age of the world picture make clear, the environmental crises of our current situation cannot be ameliorated by the sophistication of calculative methodologies. The crisis experienced by research is dominated by the availability and relevance of data, not by what is done with the data, and certainly not by thought of what kind of designing is involved in

⁹ In 1966, Coca Cola backed a study on the impacts of beverage containers. Weidema indicates that a follow-up study on containers for the US EPA, is often considered to be the first LCA study. Weidema *Environmental Assessment of Products* 11.

¹⁰ Beck, *Ecological Politics in an Age of Risk* 5. This kind of activity is characterised by Beck in terms of the more general industrial project of symbolic detoxification, which aims at organising and sweetening the social perception of ecological 'mishaps'.

¹¹ Heidegger, "The Turning" 48.

the construction of data.¹² The ambition to take hold of things defiantly in a quest for security, which Beck characterises as ‘risk assessment’, is becoming more precarious and the task of concealing its costs more fraught with failure, more difficult and complex.¹³ The task before environmental management is to continue to *suppress* the opening of relations; managing our environments such that the relational conditioning to which they are always subject is controlled and screened-off.¹⁴

A relatively recent ‘breakthrough’ problem exposes the impossibility of this management task. LCA’s approach to product function, materials, and processes, which focuses on correlating environmental impacts to numerical values, trains the practitioner to perceive a reductively defined and calculable product envelope. The practitioner makes adjustments within this envelope, taking on the assumption that every individual product can be ‘improved’.¹⁵ This case-by-case focus fails to account for the escalating impact of the ‘net’ weight of resources used in and by products, and moreover, the sheer volume of products themselves. The ‘churn-rate’ of ever-shortening product life-cycles has deeply problematised the pursuit of per unit ‘ecoefficiency’, particularly as efficiency seems to accelerate rather than decelerate consumption. An energy-efficient white-good or light bulb will prompt people to buy more, use more.¹⁶ The ostensible growth in environmental awareness is indelibly attached to the growth in visible environmental ‘goods’, which is advocated by environmental

¹² The key problem facing LCA is commonly held as data-relevance and availability. In 1999 I attended a forum of the Australian LCA Roundtable that was devoted to the issue of the problem of adapting European environmental impact categories, such as ‘global warming potential’, to Australian conditions. The significance of correctness in this discourse became clear as the question concerning what was to be done *with* the data was continually effaced by anxious discussion as to the adequate *correspondence* of data to scenarios. “The unambiguity of scientific statements has eluded insight into their dependence on decisions, methodology, context.” Beck, *Ecological Politics* 119.

¹³ In “Building Dwelling Thinking” Heidegger shows us that security must come in another form. If after Heidegger we can think of sustainability as the freedom to endure, this requires a kind of security, protection, preservation that we do not yet have the tools or the capability for.

¹⁴ This paradox reappears in the system as “opacities, illusions, disturbances and the need for screening off” Luhmann, *Ecological Communication* 108.

¹⁵ Eva Heiskanen, “Institutionalization of Life-Cycle Thinking in the Everyday Discourse of Market Actors” *Journal of Industrial Ecology* 4.4 (2001): 35.

management methodologies that subtract the product from the relationality of its life situation.¹⁷ Technocratic sustainability is, as Davison notes, *essentially* unreflective and uncontested.¹⁸

In spite of this insurmountable problem, which means that a methodology like LCA could itself never be ‘improved’ to accommodate an ontological consideration of products, the practices of boundary setting and decision making at its heart afford a useful glimpse of the struggle entailed in imposing a workable scientific model.

LCA’s deliberations about the technical and cultural boundaries of the product system are impossible to resolve and are renewed in each study. This has meant that the progress of LCA, particularly as a comparative tool, has been hampered by its openness to variables and assumptions. It is seen in scientific circles as undeniably value-laden and frequently inconclusive.¹⁹ LCA deals with interpretations of the interface of system and environment, an area in which “uncertainty is endemic”.²⁰ A lack of consensus with regard to how it should be performed, when it should be performed (at product concept development or materials specification?) and a perception about LCA’s data limitations regarding the complexity of the impacts of one system upon another, as well as the uses to which LCA should best be put (product development and design decision making, marketing, service provision, policy?) have all threatened the scientific credibility of the method.²¹

The effort to establish credibility entails identifying often quite tenuous and fragile relations between products and their effects, and arguing for the

¹⁶ This is identified as the ‘rebound effect’. See Manzini, “Scenarios of Sustainable Wellbeing”.

¹⁷ Research into physical phenomena must first recognise them as object — as individual, “spatio-temporal magnitude(s) of motion”. Heidegger, *The Age of the World Picture* 119.

¹⁸ Davison, *Technology and the Contested Meanings of Sustainability* 64.

¹⁹ Heiskanen, “Institutionalization of Life-Cycle Thinking in the Everyday Discourse of Market Actors” 32.

²⁰ Graedel and Allenby, *Industrial Ecology* 193.

²¹ “Poor quality of input data, questionable assumptions, sloppy methodologies and debatable interpretation can all undermine or ‘contaminate’ LCA.” Helen Lewis and John Gertsakis, *Design + Environment: a global guide to designing greener goods* (Sheffield: Greenleaf Publishing, 2001).

significance of these relations.²² It also means anticipating life-cycle issues within the defined product system.²³ In this, the experienced LCA practitioner learns to sense the outcome of an LCA before it is conducted, as well as how the boundaries and scope of the study needs to be set to avoid calculation problems.²⁴

This brings us to an unexpected spin-off of LCA that impresses itself on the practitioner and has begun to take on a life of its own: a style of ‘life cycle thinking’ that is “catching on at a discursive level”.²⁵ Eva Heiskanen notes that the take up of lifecycle thinking by ‘market actors’ reveals a preference for transparent product-chains and a tendency to integrate environmental and other ethical issues, which in turn is creating a demand for the institutionalisation of these practices.²⁶

This observation is supported by the increasing ‘portability’ of LCA in a professional context. There is widespread use of ‘streamlined’ versions of the methodology, as well as the use of LCA as a tool for design decision-making rather than as a way to make definitive assessments about products. This trend, which can no doubt be partly attributed to a desire to avoid the intensive LCA process, reveals the ways in which a style of thinking is learnt and adopted in the process of practical activity.

For Donald Schön, a practitioner’s knowing is *in* his or her action.²⁷ This ‘tacit’ knowledge allows the practitioner to develop a feel for what they are doing. One who has practical capability with a particular situation does not need to question the underlying assumptions of that situation in order for it to function, and such problems withdraw. The power of the practitioner’s

²² Heiskanen, “Institutionalization of Life-Cycle Thinking” 32.

²³ The suggestion has arisen in the literature that LCA provides a useful model for promoting strategic thinking in design by fostering a feel for the consequences of design decisions at the concept development phase, where many environmental problems are “locked in.” See Lewis and Gertsakis, *Design + Environment* 13.

²⁴ This point was ascertained by personal conversations with environmental managers at, *Life Cycle Decision Making for Sustainability Conference* 2002.

²⁵ Heiskanen, “Institutionalization of Life-Cycle Thinking” 42.

²⁶ Heiskanen, “Institutionalization of Life-Cycle Thinking” 43.

²⁷ Donald Schön, *The Reflective Practitioner: How Professionals Think in Action* (Aldershot, England: Arena, 1991) 49.

ontological orientation carries its own explanation. However, this can also lead to rigidity in thinking and “a parochial narrowness of vision”.²⁸ Schön says “(m)any practitioners, locked into a view of themselves as technical experts, find nothing in the world of practice to occasion reflection”²⁹

The ability to make critical assessments in a practical situation is a capability that he calls ‘reflection-in-action’. In a ‘good’ design process, the practitioner shapes a situation and then, as unintended consequences arise, responds by reflecting and acting on his or her initial construction of the problem at hand. For Schön, designing is a “conversation with the materials of a situation” that lends itself to the practical research of reflection-in-action.³⁰ Schön’s comments on design are pertinent to our focus and are worth quoting at length. He says:

A designer makes things. Sometimes he makes the final product; more often, he makes a representation — a plan, program, or image — of an artifact to be constructed by others. He works in particular situations, uses particular materials, and employs a distinctive medium and language. Typically his making process is complex. There are more variables — kinds of possible moves, norms and interrelationships of these — than can be represented in a finite model. Because of this complexity, the designer’s moves tend, happily or unhappily, to produce consequences other than those intended. When this happens, the designer may take account of the unintended changes he has made in the situation by forming new appreciations and understandings and by making new moves. He shapes the situation, in accordance with his initial appreciation of it, the situation “talks back,” and he responds to the situation’s back-talk. In a good process of design, this conversation is reflective. In answer to the situation’s back-talk, the designer reflects-

²⁸ Schön, *The Reflective Practitioner* 60.

²⁹ Schön, *The Reflective Practitioner* 69.

³⁰ Schön, *The Reflective Practitioner* 78.

in-action on the construction of the problem, the strategies of action, or the model of the phenomena, which have been implicit in his moves.³¹

This accords with the significance of the interpretative horizon in ontological design. Each practical action, such as Bateson's example of the cuts of the axe in the tree, speak back to the actor: "Each stroke of the axe is modified or corrected, according to the shape of the cut face of the tree left by the previous stroke."³² In addition, the design situation also changes, becomes modified with each change in the environment and each change in the disposition of the actor. Schön says that design practitioners tend to develop their own metalanguage, or language about designing, to deal with this back-talk.³³ The back-talk of design concerns the situation the practitioner is in and the materials of that situation, which 'speak' about previous actions, their consequences and implications. The metalanguage of a design situation is the means of this 'listening' practice; it provides coherence and makes sense of the trace of the process, which guides further actions. It also conveys particular values of experience.³⁴ While Barthes saw metalanguage as the fate of the mythologist, Schön suggests instead that metalanguage is both the *sine qua non* and *modus operandi* of practice.³⁵

Certainly the place for developing a metalanguage for sustainable designing cannot be assumed. It has to happen in relation to the existing languages of design practice, in which the ideal object, which sits conceptually outside the local design context, rules. It also needs to happen in relation to specific encounters, in which problems and questions are renewed. We seek to prompt the development of an intuition for sustainability by way of a practical strategy that works *with* the designer's tacit knowledge of objects and

³¹ Schön, *The Reflective Practitioner* 78 – 9.

³² Bateson, *Steps to an Ecology of Mind* 317-18.

³³ Schön, *The Reflective Practitioner* 81.

³⁴ Schön, *The Reflective Practitioner* 97.

³⁵ Barthes, *Mythologies* 158-59.

conceptual facility with them. Thereby the designer “becomes a researcher in the practice context.”³⁶

³⁶ Schön, *The Reflective Practitioner* 68.

CHAPTER 12. RESEARCH THROUGH DESIGN

By the time today's five year olds are adults, only 20% of the products and services they will be using exist now. In other words, 80% have not been thought of yet.

(MIT Media Lab)¹

To say that this is the world in which we must intervene does not mean accepting it as it is. It means understanding how it appears, how it is made up, and the problems that threaten it; regardless of what we want to achieve, this is the material with which we must work.

(Ezio Manzini)²

The 'technical r(el)ationality' that currently owns the project of sustainable development and steers its correcting course, has not altered the fundamental problem of our relatedness to material culture. We need to find ways to raise the question of what worlds designed things open in the practical setting, in which design is nearly always reduced to and handled as a technical problem with a range of instrumental modes of resolution.

We have an uncontested design situation that is thoroughly implicated in the proliferation of telegenic forms — many of which fail on the market and fall out of sight by way of the designation 'waste'. Schematic, ecologically cursory ideas are allowed to reach full elaboration in a material sense. This is encouraged by the computer-aided streamlining of the design process by way of which the chain to manufacture becomes ever more 'efficient'. The imposition of the worldview of the design discipline is increasingly instrumentalised.

¹ MIT Media Lab Study cited in Marsh et. al. *Strategic Foresight* 135.

Victor Margolin has noted: “The world expects new things from designers. That is the nature of design.”²³ Industrial design conceives of its role as working through problems by providing object-based solutions. At a professional level this occurs as the timely and accurate response to a client’s design brief. The designer-in-training is inducted into the profession of design by learning to respond correctly to the demands of instructors, which carries through to servicing clients. Design students spend hours before their computer screens ‘dancing’, as Scarry would say, with the image, carefully elaborating individuated, telegenic responses, which upon completion are judged comparatively and largely abandoned. In the computer-aided design environment the designer-in-training learns to ‘forget’ the environment beyond the context of comp(1)eting objects.

In this culture of designing, material forms occur in the exercise of correctness. The project of design for sustainability comfortably arrives as a new thematic for product design. Students use the ideas of *Eternally Yours* to make new product forms that are exhibited in vitrines in the foyers of institutions, representing the environmental credentials of the institution and the object-based approach of its form of education. Designers become so preoccupied with the theoretical resolution of problems in the telegenic scenario, that they literally lose sight of the mass of physical products in their environments of use, where interpretative contexts such as that proposed by *Eternally Yours* might have an instructive role.

The projected escalation of the product environment indicated by the MIT Media Lab’s assertion above, feels true in spite of the other design truism that 80% of new products fail to be wanted, let alone needed. Whilst there are numerous ways to read the assertion — ‘new’ products can be understood as existing products that are reclaimed, modified or remobilised in service relations for example — it ostensibly holds a deeper promise for object-oriented innovation. In fact, it is likely that most designers would *want* to read

² Manzini, “Prometheus of the Everyday” 221.

³ Margolin, *The Politics of the Artificial* 88.

it as inviting the production of entirely new forms serving, ideally, new ‘needs’ (or, in the lexicon of the marketer, new ‘consumer functions’). But this natural reading, which apparently also shores-up the profession of design, carries an unacknowledged and untenable ecological and environmental burden. The optimistic promise reveals the easy erasure of the existing design environment and its future claims.

This situation suggests that massive changes are needed in the conduct of design — not only in what design *does*, but in how design *thinks*. The interpretative context that allows strategic possibilities to emerge must be preserved and communicated as an integral part of design practice, particularly as culture becomes more pervasively televisual and self-consciously responsive to ecological disturbances and the demand for ‘sustainability’. However the understanding of the practical context also needs to change.

A common lament in design circles is that designers caught up in generic computer generated design environments ‘no longer see’. What is meant, I think, is that designers often fail to *reflect* on what they see. But this is hardly surprising when the designer has been trained to see correctly and to understand design in terms of the realisation of individuated objects in uncolonised space. The landscape of the computer-aided design environment is understood as ‘free to work’. This environment circumscribes designers’ ‘environmental awareness’ and they become skilled at the discipline of designing as spatial imposition. By way of remote designing, places are transformed into no place at all.⁴

While designers ‘think spatially’ the televisual destiny of this thinking in which all placings are interchangeable causes designers to ignore design environments in which things thing in particular and complex ways.⁵ The ontological designing of this situation correlates with the broader televisual inclination of culture that has informed our lifeworlds from our beginnings.

⁴ Foltz, *Inhabiting The Earth* 85.

⁵ Christopher Nemeth referring to work by Howard Gardner says “...designers tend to rely on spatial intelligence.” Christopher Nemeth, “Get Real: The Need for Effective Design Research”, *Visible Language* 37.1 (2003): 98.

The memory of the designer is colonised by televisual forms that circumscribe and further embed the televisual context of designing. This disposition recants the development of a sense for design responsibility outside that governed by the accomplishment of correctness. In this situation, learning to ‘see’ differently is a task of considerable practical redirection.

This problem ekes out a place in the heart of design practice for the return of theoretical reflection. We use the term ‘theoretical’ here in the original sense Heidegger gives it in “Science and Reflection”: *theorein* is...to look attentively on the outward appearance wherein what presences becomes visible and, through such sight – seeing – to linger with it.”⁶ We want to develop a capacity for what Heidegger calls ‘genuine’ reflection on the relational nature of being, a reflection that does not consume its object as object but rather struggles to see the thing as a ‘situated instance of worlding’.⁷ In short, we want to push the hermeneutic aspect of designing in order to develop an ‘eye’ for the *pro-duct*, which acknowledges the agency and ethical responsibility of design.

In what follows we outline an experimental, observational de-sign research strategy that aims to reorient the imagination, understanding and practice of designers. It seeks to motivate the development of skills in critical judgment by way of a careful attention to physical things in both their withdrawn environmental conditions and as decontextualised ‘props’. In this scenario, the object becomes a heuristic device for reinventing the sign value of encountered forms and directing the process of reflection-in-action. By observing things as gathered forms of knowing, we can discern from where and how things have been sent, and the lives they point to. At the location of the passage of their destiny, we can detect incremental possibilities and opportunities for their redirection and sustainment.

⁶ Heidegger, “Science and Reflection,” *The Question Concerning Technology* 163.

⁷ Heidegger calls this ‘genuine reflection’, reflection that “transports the man of the future into that ‘between’ in which he belongs to Being and yet remains a stranger amid that which is.” Heidegger, “The Age of the World Picture” 136.

Observing the tacit rationalism of the design of the computer, for example, enabled Winograd and Flores to develop design interventions that care appropriately, in their view, for the experience and the learning of computer users. This is in stark contrast to the development of design software that merely services consumer expectations and perpetually remobilises the computer's misinterpretation of human cognition and language. The perspective we adopt makes any designing conditional upon what precedes it, surrounds it and modifies it.

This de-sign research effort undeniably entails a measure of acquisitive curiosity, strain and calculation, which is suggestive of a disposition that many thinkers I have gathered together in this thesis — Heidegger and Levin among them — would find problematic. But the difference is that this effort attempts to forge relations in an extensively designed world that is artificially constrained by and flooded with objects of knowledge. It responds to the need to unpack the complexity of design-in-use within an appropriate research framework. Our research approach therefore draws on the empirical tradition, yet the object of the empirical view is destabilised by a cultural hermeneutics that entails in McHoul's words, "a kind of experiencing opposed to traditional empiricism's derivation from experience."⁸

RESEARCH THROUGH DESIGN – AN OBSERVATIONAL RESEARCH STRATEGY

One of many ways to define 'sustainability' is that it is the ability of any system or environment to sustain or survive damage. This is a particularly useful definition to apply in the design educational milieu of computer-generated environments, in which a sense for the wear and tear of the product-in-use is strikingly absent. Design imaginations are largely trained on the retail glamour and corporate identity of new products, innocent of use. Conversely, the product that has endured some use-life is a rich resource for design

⁸ McHoul, "The Being of Culture, Beyond Representation" 11/20.

reflection. Its physical appearance bears the marks and traces of intended and non-intended use, news of design decisions including appropriate materials selection, and feedback about its cultural value in evidence of care, repair and maintenance.

Currently, there is little research into the product during its use-life, as it is seen as beyond the designer's jurisdiction. Industrial design looks closely at issues concerning the 'fit' of a product to a user, such as ergonomic and aesthetic preferences in consumer needs analysis. A designer creating a 'sustainable' product on the other hand will put a lot of store on green materials selection and the optimisation of resources within the technical skin of the product envelope. The sustainability of the product is likely to be judged on the assumption that it will lead an exemplary life, without the intervention of troublesome variables, such as the user who will fail to care for the product, repair it, share it and ultimately feed it into the appropriate waste infrastructure at the end of its life.

The designer-in-training — who is in the process of acquiring the instrumental skills and worldview of the profession — needs a portal to critical reflection in the existing stream of daily activities and projects. Our research strategy is therefore conceived as integral to the design process and responsive to its protocols and perceived pressures, including time and/or budgetary constraints in both a professional and educational context.⁹

Research *through* design lends itself to the existing practical contexts of designing. Unlike traditional social science research, which focuses on human participants and involves extensive research design issues, or the numerical preoccupations of LCA, this is research for sustainability conducted in relation to the taken-for-granted, existing design environments that support and sustain the designer. It is conceived as an important and often omitted preliminary investigation that should precede and contextualise studio-based making.

⁹ In "Get Real: the need for effective design research" Christopher Nemeth argues that due to these constraints, effective and reflective design research needs to be incorporated into the design process.

Within the instructive framework, it is important that the designer-in-training has a given directive to work with. In this case, an existing object-oriented design brief provides a useful point of commencement that will be critically ‘undone’ and reconceived through the research process. Instead of fulfilling the requirements of solving a disarticulated design problem, the designer is directed to first consider the existing design environment in relation to the new design task, both ‘in the field’ and in a ‘crit’ session in which a decontextualised ‘prop’ is analysed in relation to its projected ‘living’ context.

Research through design draws on the social science derived method of researching material culture, as well as on the design-related practices of reverse engineering (which involves taking apart physical objects and documenting their construction, with the aim of learning to do this conceptually) and ergonomic heuristics (which is a design method that takes the physical object as a guide to self-learning).¹⁰ None of these sources are unreservedly advocated, but they do enable us to develop a way of ‘rematerialising’ the existing design environment and encouraging practical reflection.

The key resource is researching material culture. This is a method particularly open to design appropriation in the context of our focus on things and our critique of the oversights of technical designing. Its mode of ‘unobtrusive observation’ invests in objects and environments that have known use, which is in stark contrast to the dominating modernist aesthetic in design culture that we have so far observed.¹¹ As an object of observational research, the ‘experienced’ product or environment provides indices that mark the spatial

¹⁰ While it works with a very mechanistic view of human performance, ergonomic heuristics explicitly validates the development of practical reflection. The designer sits down with a product and makes a series of methodical judgements about its useability, functionality, safety and other design features. With each event of product analysis, the researcher is developing their interpretative skills, drawing on their experience as designers and as product users. The outcome is a process-based argument about the ‘fit’ of the product. For an outline of this method see Neville A. Stanton and Mark S. Young, *A Guide to Methodology in Ergonomics: Designing for Human Use* (London and New York: Taylor and Francis, 1999) 94 – 97.

¹¹ For a detailed explanation of researching material culture in the social science context and other ‘unobtrusive’ research methods see Allan Kellehear, *The Unobtrusive Researcher: a guide to methods* (St. Leonards, NSW: Allen & Unwin, 1993).

domain with signs of temporality, which the authors of the architectural study *On Weathering* call “sedimenting the past in the ‘present.’”¹² Rather than being definitive, the visual cue provided by the physical object suggests the complexity of design in time. The researcher is encouraged to think *beyond* the product, *through* the product. This approach claims a space in the design process for speculation on the *consequences* of design decisions.

Social scientists, anthropologists, historians and cultural studies scholars, to name but a few, have long valued material culture as a conduit for social information, and it is a cross-disciplinary preoccupation that is growing.¹³ The physical ‘traces’ of past human activities ostensibly reveal much about the shape of those activities, which is information of a very different kind to data obtained via the interview or ‘human factors’ data that is used to assess fitness for purpose in industrial design.

We do not claim that material culture research offers any definitive solution to the problem of design’s sight — its own history is well caught up in the reifying, anthropocentric traditions of science to which we have referred.¹⁴ Our interest is not in treating the product as a synecdoche of social conditions or as a sign of ‘man’; rather we are interested in the product’s *own* sphere of influence, which traverses material, social and cultural ecologies; histories and futures. We are not looking for the ‘essence’ of culture such as in the ethnographic tradition (of which design is increasingly enamoured), but for *signs* of design(ing) into which we can enfold our own design(ing).

Material culture research was brought to wide attention in the social sciences in 1966 by the publication of *Unobtrusive Measures*.¹⁵ In this text Eugene Webb, Donald Campbell, Richard Schwartz and Lee Sechrest set out

¹² Mostafavi and Leatherbarrow, *On Weathering* 82.

¹³ Emily Eakin, “Screwdriver Scholars and Pencil Punditry,” *New York Times* February 24, (2001): 7.

¹⁴ There are significant problems with the representational, anthropocentric approach of the cultural disciplines, as McHoul has shown. Heidegger also discusses the extreme anthropocentrism of the *Weltanschauung* of this family of disciplines in “The Age of the World Picture” (133).

¹⁵ Eugene J. Webb, Donald T. Campbell, Richard D. Schwartz and Lee Sechrest *Unobtrusive Measures* (Thousand Oaks: Sage Publications, 2000).

by telling a story about Sherlock Holmes complimenting Dr Watson on his newly acquired office on one side of a duplex. The basis of the compliment was Holmes' observation that the steps leading to Watson's office were more worn than on his competitor's side, from which Holmes deduced it was the office that attracted more business. This example falls into the first of two broad classes of measure the book considers; the erosion or wear on a material and accretion, which relates to a deposit of material, such as in the production of household garbage.

This evokes a range of possibilities for the designer to engage with. A careful observation of experienced things can help us to discern the culture of their making, and to speculate on the cultures of use they support. A designer armed with a product brief, who is first directed to find 'proxy' situations related to the brief 'in the field', is confronted by a new context for designing. The situation, carefully elaborated, creates problems whose 'solutions' must now take account of a range of use-life speculations.

The sign value of objects is changed by the altered situation of encounter. An aging carpet can be valued as a sign of how it is used; the location of major thoroughfares is indicated by discernable patterns of wear. It is a failing design, reaching a state of degradation on the basis of the regular use it should support. We can guess that it was an observation of this sort that led to the development of the carpet tile, which made the replacement of only the worn areas of carpet possible — a limited but much-lauded 'sustainable design' innovation.¹⁶ More significantly, the designer is impressed by the environmental situation — the carpet covers the floor of an air-conditioned environment in a hot city that is getting hotter. This redraws the boundaries of the problem and opens the possibility of designing new 'conversations with the materials of a situation'.

¹⁶ The 'modular carpet' is one of Interface Inc's 'sustainable products' along with a variety of service-based 'floor-covering solutions'. The company provides an interesting case study of how to sustain a product that is in many ways difficult to justify. See "Sustainments are never carpeted" *Sustainments IE Newsletter* April (2002) <<http://www.edf.edu.au/Sustainments/Newsletter/>>

The ‘personalised’ product or environment provides the design researcher with the physical documentation of the incorporation of a design into a person’s particular lifestyle. One might think of the underground doctoring of the first generation of iMac computers to include an internal floppy disk drive, the patterns of dust or dirt on a piece of broken-down industrial equipment, the layers of leaden paint flaking from a wall, the repair work on a much-loved garment or even the graffiti on a school bag as examples of ‘accretion’ that invite design judgment.

Alan Kellehear’s more recent guide to methods, *The Unobtrusive Researcher*, expands on the physical trace to include the study of whole objects and organisational spaces, describing how material culture research can be conducted by methodically recognising different patterns in physical appearances.

One particular example he relates is the study of a screwdriver, which is something of an icon in material culture research.¹⁷ We use this example to demonstrate how the product as a decontextualised prop can evoke situated conversations. The prop which students can hold, use, pull apart, examine for the marks of wear and tear and make guesses as to the materials, is illuminating for the form-focussed designer, providing a valuable heuristic opportunity for reflective practice. Consider the screwdriver that has served its current user for many years. We can hold this artefact up to the student and ask:

Question: what is this?

Answer: A screwdriver.

Q: What is a screwdriver used for?

A: It is used for driving screws.

Q: How do we know this?

A: We have learnt this in part by observing others and through our own experience as users.

At this point we are still discussing an ideal type. A careful look at *this* particular object — the surprising difficulty of this exercise suggests how

resolutely the ‘model’ imposes itself on vision — will however reveal much more than simply a ‘tool for turning screws’. It is also used for prying lids, mixing paint, as a chisel, a digging implement. It could also be used as a weapon. We know this not only through our own experience or by observing others, but also by carefully observing the thing itself — it is a substantial, simple object from an earlier era of industrial design. Its surface is flecked with paint and dirt, its steel shaft is rusted, its head blunt, its resin handle impervious. We can discern that it is a product that has endured a degree of neglect but that it has always been ready to hand for the user. We can also speculate — given how its many uses have shaped it — that even though its screw-driving days may be numbered, it could live on in one of these other roles.

Learning to read such signs transforms the *denotative* object, making it the destiny of relations the researcher attributes to it. Careful observation provides important clues about design decisions and processes, and a valuable angle on assessing the durability, performance and appropriateness to application of materials. Unlike an LCA study, this kind of observation allows a material to be assessed beyond the objective features of how it is produced, its inherent qualities and recyclability, in terms of how it actually interfaces with other materials. We can consider the durability and appropriateness of how joins have been made, (whether for example components are permanently glued together, welded or temporarily snap-locked), compare the wear and tear of one product with another of a similar function and consider the implications of particular product contexts, which continually modify the individual ‘product system’. We can make assessments about whether *these* materials in *this* configuration have lent sustainment to the projected situation, or not. In this practice we start to relinquish the vision that overlooks the ‘situated instance’ of the serial object in favour of its model.

The product-in-use is invested with special values. A close look can yield information about how it is handled and appreciated by its users and how

¹⁷ Kellehear, *The Unobtrusive Researcher* 97.

it endures this handling by accommodating neglect or inviting care. We therefore have an opportunity to not only judge materials choices that sustain wear and but those that improve the cultural value of the product as it ages.¹⁸ We can also judge how careful the product is in its own delegation of responsibilities.

The ingenuous things of everyday life, such as the screwdriver, resonate with an honesty that Borgmann and even Barthes would certainly appreciate. Baudrillard would on the other hand no doubt draw attention to the unused toolkit hanging in the gleaming shed whose work consists primarily of endowing its owner with the aura of good labour. But what of the device, which is so good at concealing its operations? It is in relation to those things whose telegenic designing is revealed by way of their environmental fragility, that this mode of research is of particular value.

The design environment is filled with an increasing number of low cost, all-in-one designs, in which the entire object turns out to hinge on a single fragile feature. This least resilient element is often also the least accessible element. Benign when new, this feature stands out when the product breaks down in a use context — the ink in a non-refillable biro runs out, a fragile globe embedded in a complex piece of medical equipment breaks, the monitor fails or the memory capacity in a technological device is reached. In this context we can see that a product like the iMac was closely shadowed by its impending functional obsolescence and use-life problems. This discovery allows for a re-evaluation of the styling of iconic products, which reveal an extreme environmental incongruity in a use-life setting. In the environment of competitions, exhibitions, promotional images, signature designs and celebrity designers, such an observation rarely has the opportunity to emerge. In the practice of research through design, it promotes the recognition of symbolic, practical and material commensurability in product styling. The commensurability we signal here is not ‘form follows function’ modernism, but form follows the comprehension of designs designing.

¹⁸ See van Hinte, *Eternally Yours*.

Because the overwhelming cultural tendency is to dispose of new products and materials to make way for more, finding exemplary ‘experienced’ products can be a feat in itself and provides another learning opportunity. When the selection criteria include qualities of endurance, appropriateness, resource frugality, structural care, it is much easier to find examples of the opposite — wasted new products or products that have aged prematurely due to poor material choices and inappropriate design.

There are many practical advantages worth noting in terms of the learning opportunity provided by such research. The rise of a more resource conservative culture will mean that existing products may have to work harder, providing more services to more users. New industrial trends like product take-back and disassembly for remanufacture will demand the design of products conceived for multiple lives and with “well-planned careers”.¹⁹ The acquisition of skills for assessing the performance of materials and product components over time will clearly become an asset in this context. Further, the designer who has developed a feeling for sustainability in material and cultural terms — like the LCA practitioner who knows by looking at the products to be compared how the study is likely to turn out — is in a much better position to introduce sustainable options to clients without recourse to moral environmental posturing. Being able to literally demonstrate specific problems of unsustainability substantiates arguments about more appropriate responses to the design brief.

In spite of the intensive complexity of the design environment, we find but fragments to nurture a sense for sustainment. For example, in my search to find designs for children not predicated on the proto-consumer aesthetics of the televisual, I have gathered together a small selection of rare books, toys and games — such as a well-crafted wind up toy with a variable resistance mechanism and a puzzle that grows in complexity — which ‘speak’ of

¹⁹ “A table or a vase or a television set is not complete without a well-planned career that starts as soon as it is thrown in the deep end.”Van Hinte, *Eternally Yours* 26.

resilience, endurance and appropriateness.²⁰ Locating such examples can be a highly rewarding pursuit. The lessons learnt from them in use invite transfer to other design contexts.²¹

A ‘metalanguage’ for sustainable designing begins to take shape in this cultural search. Designs for longevity and reuse, designs that are resource conservative and appropriate, designs that exhibit a certain commensurability between idea, form and use-life are validated and we can learn something in the process about the ecologically oblivious nature of most design predicated on technical and aesthetic resolution. The ‘sedimentation’ of the future in products designed for obsolescence begins to show up.

The sign in this context no longer affects the *privation of history*, which Barthes (after Marx) accused it of. We are in the position of reattributing significance where the modernist aesthetic sensibility has relinquished it. We can learn to sense the increment of mined forest, contaminated soil, groundwater, coal and land-fill space shadowing the telegenic product.²² Observing products-in-use we can also learn to discern the auxiliary relations and ‘reference flows’ generated by them — the dependency of the computer on other media, on power supply and communications infrastructure for example — as well as bringing into view the parallel proliferation of products with

²⁰ Another example worth mentioning is a book by Elizabeth Honey, *The Cherry Dress* (Crows Nest: Allen and Unwin, 1999). In a world saturated with images of transient fashion, this is a story about the life-cycle of a child’s dress that grows in value as it ages. The dress is made by a child’s grandmother and given to her as a birthday present. The child complains as the dress is beautiful but too big for her to wear — her mother then alters it, conserving the size for future use by strategically placed hems and seams. The dress is worn for two summers and then is passed on to siblings and to other children who have admired it from afar, gaining value as it is invested with the care and enjoyment of others while it slowly and appealingly fades. Finally, as it nears the end of its useful life, a photograph is taken and the now memorialised dress is returned to its maker years later in the form of a photograph, which gathers the history of its wearers. The fifteen inked pages of this \$12 Australian book, printed in Hong Kong and derived from an unacknowledged forest, resonates nonetheless with sustaining potential. It shows effectively how a particular style of life can be communicated through design.

²¹ Manzini’s ‘enabling solutions’ require a facility with this process of analogical transfer. An existing idea — such as that of car sharing — is ‘captured’, decontextualised and then amplified in a new setting. This strategy was explained at a Briefing Workshop held by Manzini on Friday March 12, 2004 at the University of Technology in Sydney.

²² This relates to the concept of ‘the ecological rucksack’ developed by the Wuppertal Institute, a German research organization, which endows a product with the ‘invisible’ material burden of its making by a simple calculation of its materials intensity.

identical functions. In this context, Beck's call for the "redistribution of burdens of proof and of the manufacture of attributability" as an 'antidote' to modern industrial society, has a practical possibility and specific application.²³ In addition to enhancing the designer's natural ability to intuit the consequences of design decisions and knowledge about how materials and technologies wear, this form of research instils recognition of the inventive nature of interpretation that is contrary to the demands of science for transparency and evidence.

In the social science tradition, Kellehear remarks that the methodological strength in studying material culture in a social science setting lies in its value in stimulating creative questioning. He says, "physical objects and traces do not actively tell a story...Rather, they are more often simply the *props* to a story which begs the question, 'What is the plot here?'"²⁴ Rather than a search for definitive plots, the researcher can learn from reflection on the experienced product's cultural impact and speculate on and how a prospective design might become socialised. The product prompts questions about the validity of the needs a design services and invites exploration of other cultural scenarios and their implications, such as how a product's 'commodity' might be delivered in more appropriate ways. In this context, the 'solution' of dematerialisation is ineluctably connected to its material conditions, disavowing its flight into conceptual idealism.

The cultural search for proxy situations brings designed things into view as the 'memories' of a projected future. The interpretations of the future locked into products is revealed 'in the field.' A useful directive in this case is to find apparent design 'innovations'. A modest example concerns design strategies to reduce the amount of materials going to landfill. In analysing household garbage, the EPA discovered that people tend to fill a garbage bin whether it is the size of a coat pocket or an apartment block.²⁵ We can

²³ Beck, *Ecological Politics* 174.

²⁴ Kellehear, *The Unobtrusive Researcher* 112.

²⁵ Alan Kellehear, *The Unobtrusive Researcher: a guide to methods* (St. Leonards: Allen & Unwin, 1993) 103.

speculate that one design response to this was to provide a landfill bin much smaller than the recycling bin, a response reflecting the desired future rather than the actual current behaviour of households. This response ideally demands a more careful approach to waste sorting, and has the potential to feed back to other aspects of household management such as purchasing decisions.

The practice of speculative invention is critical in an environment of structural unsustainability. ‘Myths’ about use or desired behaviours — such as the user who will keep, repair, share, reuse, disassemble or pass on a product — can guide the development of design simulations that anticipate and present an argument about how more sustainable cultures of use could be brought into being.

Research through design amplifies the ‘back talk’ of design and helps the researcher to become practiced at interpreting the discourse of products. The researcher learns to reflect on the being of design and the relations that bring design into being. In learning to listen to this back-talk, we do not literally deconstruct the product such as in the practice of reverse engineering. We mobilise its indexical potential to shift perceptions of its significance and claim a memory of the artificial in the condition of its perpetual erasure. This is an ontological design practice of ‘making otherwise.’ For designers who learn to read signs in this way, products ‘speak’ the culture of their making and the sensibility of their makers, enabling a view on the enculturation of habitual ways of doing things and of what is sustaining the unsustainable.

Research through design is by no means a solution to the problems of the tacit ongoingness of object-oriented designing, which is permitted to reproduce itself as design’s sole project. It is an approach that is fragile and dependent on each context of its mobilisation. A failsafe method cannot be designed because each situation will contest it. However, learning to observe and ‘read’ the product as a destiny of design decisions, as a conduit for the relationships, experiences and habits of its users, and as a script for future being, has the potential to foster the ability to create and project relations between ideas, actions and material conditions. It encourages a more

environmentally aware and forethoughtful practice of designing in the midst of our ‘ideal’ world.

Design does not make for now, but rather thinks for the future. This thinking, which hides in objects, is realised in small choices, incremental decisions and uses. It is these aspects that bear the burden of cultural change. Change at this level involves — adapting a phrase of Manzini’s — the reorientation of the design imagination. It manifests in how the designer conceives of the task at hand and responds to it, and ultimately how the knowledge of the designer gets embodied in the practical situation.²⁶

As we said in the introduction to this thesis, sustainability is ‘a landscape to be invented.’ We do not picture this as an imaged landscape of new, sustainable products built on, or even out of the old. It is not a landscape that can be made visible in this familiar way. Images of a different future have little agency in relation to the future that is becoming through the made things, imaginations and practices of many. Rather, the landscape of ecological relationality is ever unrepresentable — it opens up in the midst of the existing landscape of abandoned things and environments and in the shadow of ecological danger. It signifies a way of being with things not yet with us, but in dire need of direction. This need takes the work of design beyond the culture of televisual objects to alternative future ways of being. In relation to these futures, the designer’s work is reconceived as a process of learning to make with what is already made, but as yet unfinished. Design and de-sign work together in the development of new habits of interpretation and engagement with the product world.

Whilst our research strategy is a far cry from ‘a new historical vision’ such as Levin proposes after Heidegger, it offers an adventure in reworking the

²⁶His phrase is: “The ecological reorientation of the social imagination.” Manzini, “Prometheus of the Everyday” 238.

habitual ground of design practice in light of the (in)visible design conditions in which we are all implicated.²⁷ It does not attempt to calculate these conditions, but rather to carry a trace of ecological process to the advancing project of design. The observed we observe *testifies* to the invisible, points to it but does not claim to know it.²⁸ It acknowledges “the invisible shadow that is cast around all things everywhere” in light of the world picture.²⁹ In this, a disposition is enacted — its propensity remains to be seen.

²⁷ In Heidegger’s work on Greek vision Levin says “The effort itself is sufficient, and serves its purpose, if it brings to light for us a *visible difference* between *our* vision and *an other* vision. For it would be through whatever that *difference* opens up that a new historical vision could finally emerge.” Levin, *The Opening of Vision* 103.

²⁸ Heidegger, “The Age of the World Picture” 154.

²⁹ Heidegger, “The Age of the World Picture” 135.

BIBLIOGRAPHY

- Alexander, Christopher. *Notes on the Synthesis of Form*. London: Oxford University Press, 1964.
- Andermatt Conley, Verena. *Ecopolitics: the Environment in Poststructuralist Thought*. London and New York: Routledge, 1997.
- Andrew, J. Dudley. *The Major Film Theories*. London and Oxford: Oxford University Press, 1976.
- Ang, Ien. *Living Room Wars: Rethinking media audiences for a postmodern world*. London and New York: Routledge 1996.
- Arendt, Hannah. *The Human Condition*. Chicago: The University of Chicago Press, 1958.
- Bandura, Albert Dorothea Ross and Sheila A. Ross. "Transmission of Aggression through Imitation of Aggressive Models." *Journal of Abnormal and Social Psychology*. 63 (1961): 575 - 582.
- Barthes, Roland. *Camera Lucida: Reflections on Photography*. Trans. R. Howard. London: Jonathan Cape, 1982.
- _____. *Critical Essays*. Trans. Richard Howard. Evanston: Northwestern University Press, 1972.
- _____. *Elements of Semiology*. Trans. Annette Lavers and Colin Smith. New York: Hill and Wang, 1977.
- _____. *Image Music Text*. Trans. Stephen Heath. Glasgow: Fontana Collins, 1979.
- _____. *Mythologies*. Trans. Annette Lavers. New York: Hill and Wang, 1977.
- _____. *S/Z*. Trans. Richard Miller. New York: Hill and Wang, 1974.
- Bataille, Georges. *The Accursed Share: an Essay on the General Economy*. Trans. Robert Hurley. New York: Zone Books, 1988.
- Bateson, Gregory. *Steps to an Ecology of Mind*. Chicago: University of Chicago Press, 2000.

Baudrillard, Jean *For a Critique of the Political Economy of the Sign*. Trans. Charles Levin. St. Louis: Telos Press, 1981.

_____. *Simulations*. Trans. Paul Foss, Paul Patton and Philip Beitchman. New York and Brooklyn: Semiotext(e), 1983.

_____. *The Consumer Society: Myths and Structures*. London: Sage/TCS, 1998.

_____. *The Ecstasy of Communication*. Eds. Bernard and Caroline Schutze. New York: Semiotext(e), 1987.

_____. *The Gulf War did not Take Place*. Trans. Paul Patton. Sydney: Power Publications, 1995.

_____. *The Mirror of Production*. Trans. Mark Poster. St. Louis: Telos Press, 1975.

_____. *The Spirit of Terrorism*. Trans. Chris Turner. New York: Verso, 2003.

_____. *The System of Objects*. Trans. James Benedict. London/New York: Verso, 1996.

Beck, Ulrich. *Ecological Enlightenment: Essays on the Politics of the Risk Society*. Trans. Mark A. Ritter. New York: Humanity Books, 1995.

_____. *Ecological Politics in an Age of Risk*. Trans. Amos Weisz. Cambridge: Polity Press, 1995.

_____. *Reflexive Modernisation: Politics, Tradition and Aesthetics in the Modern Social Order*. Cambridge: Polity Press, 1994.

_____. *World Risk Society*. Cambridge and Oxford: Polity Press 1999.

Berque, Augustin. "Ecumenal Ethics." Lecture given at the Faculty of Architecture, University of Melbourne. 15 July, 1997.

Beuker, Adriaan and Ed van Hinte. *Lightness: The inevitable renaissance of minimum energy structures*. Rotterdam: 010 publishers, 1998.

Bijker, Wiebe E. and John Law eds. *Shaping Technology/Building Society: Studies in Sociotechnical Change*. Cambridge: Massachusetts Institute of Technology, 1992.

- Boorstin, Daniel. *The Image: A Guide to Pseudo Events in America*. New York: Atheneum, 1975.
- Borgmann, Albert. *Crossing the Postmodern Divide*. Chicago and London: The University of Chicago Press, 1992.
- _____. *Holding On To Reality: The Nature of Information at the Turn of the Millennium*. Chicago and London: University of Chicago Press, 1999.
- _____. "Semiartificial Intelligence." *Heidegger, Coping and Cognitive Science: Essays in honour of Hubert L. Dreyfus*. Eds. Mark Wrathall and Jeff Malpas. Massachusetts: MIT Press, 2000.
- _____. *Technology and the Character of Contemporary Life*. Chicago and London: University of Chicago Press, 1984.
- _____. "The Nature of Reality and the Reality of Nature." *Reinventing Nature? Responses to Postmodern Deconstruction*. Eds. Michael E. Soulé and Gary Lease. Washington: Island Press, 1995.
- Bramwell, Anna. *Ecology in the 21st Century: a History*. New Haven: Yale University Press, 1989.
- Bryant, Jennings and Dolf Zillman, eds. *Perspectives on Media Effects*. Hillsdale, New Jersey: L. Erlbaum Associates, 1986.
- Bryson, Norman, Michael Ann Holly and Keith Moxley eds. *Visual Culture: Images and Interpretations*. Hanover: University of New England for Wesleyan University Press, 1994.
- Buchanan, Richard and Victor Margolin, eds. *Discovering Design: Explorations in Design Studies*. Chicago: Chicago University Press, 1995.
- Butler, Rex. *Jean Baudrillard: in defence of the real*. London: Sage, 1999.
- Cadbury, Deborah. *The Feminisation of Nature: Our Future at Risk*. London: Hamish Hamilton, 1997.
- Carson, L and S. White. "The Sydney Water contamination crisis: Manufacturing dissent." *Science and Public Policy*. 25. 4 (1998): 265-271.
- Cobley, Paul, ed. *The Communication Theory Reader*. London and New York: Routledge, 1996.
- Crimp, Douglas ed. *AIDS: Cultural Analysis Cultural Activism*. Cambridge and London: October/MIT, 1987.

Culler, Jonathan. *Barthes*. London: HarperCollins, 1990.

Davison, Aidan. *Technology and the Contested Meanings of Sustainability*. Albany: State University of New York Press, 2001.

Debord, Guy. *The Society of the Spectacle*. Trans. Donald Nicholson-Smith. New York: Zone Books, 1994.

De Certeau, Michel. *The Practice of Everyday Life*. Trans. Steven Rendall. Berkeley: University of California Press, 1988.

Demmers, Marjolein and Karli James. "A simple case study: LCA of reusable and disposable shavers." *Proceedings of the First National Conference, Life Cycle Assessment: Shaping Australia's Environmental Future*. RMIT, Melbourne. March 1996.

Derrida, Jacques. *Dissemination*. Trans. Barbara Johnson. Chicago: Chicago University Press, 1981.

_____. *Of Grammatology*. Trans. Gayatri Chakravorty Spivak. Baltimore and London: The Johns Hopkins University Press, 1976.

_____. *Specters of Marx: the state of the debt, the work of mourning, and the New International*. Trans. Peggy Kamuf. New York: Routledge, 1994.

_____. *The Ear of the Other*. Trans. Peggy Kamuf and Avital Ronnell. Lincoln: University of Nebraska Press, 1988.

_____. *Margins of Philosophy*. Trans. Alan Bass. Chicago: University of Chicago Press, 1982.

_____. *The Truth in Painting*. Trans. Geoff Bennington and Ian McLeod. Chicago: University of Chicago Press, 1987.

_____. *Writing and Difference*. Trans. Alan Bass. Chicago: The University of Chicago Press, 1978.

De Saussure, Ferdinand. *Course in General Linguistics*. Trans. Wade Baskin. New York: McGraw Hill, 1966.

Dienst, Richard. "Sending Postcards in TV Land." *Deconstruction and the Visual Arts*. Eds. Peter Brunette and David Wills. New York and Cambridge: Cambridge University Press, 1994.

Dilnot, Clive. "To Change the Object Itself." *Form/Work* 1. 2 (1998): 10.

Diprose, Rosalyn and Robyn Ferrell, eds. *Cartographies: poststructuralism and the mapping of bodies and spaces*. Allen and Unwin, Sydney, 1991.

Dreyfus, Hubert L. *Being-in-the-World: a commentary on Heidegger's Being and Time Division I*. Cambridge and London: MIT Press, 1991.

_____. *On the Internet*. London: Routledge, 2001.

Dreyfus, Hubert L. and Charles Spinosa. *Highway Bridges and Feasts: Heidegger and Borgmann on How to Affirm Technology. After Postmodernism* conference, 1997. August 30, 2004. <http://ist-socrates.berkeley.edu/~hdreyfus/html/paper_highway.html>.

Dunne, Anthony and Fiona Raby. *Design Noir: The Secret Life of Electronic Objects*. Berlin: Birkhauser, 2001.

Eakin, Emily. "Screwdriver Scholars and Pencil Punditry." *New York Times* February 24, (2001): 7.

Eco, Umberto. *A Theory of Semiotics*. Bloomington and London: Indiana University Press, 1976.

Elgin, Duane. "Sustainable Television." *The Ecology of Media*. 23 (1989): 26.

Flores, Fernando. *Introduction: Business Concerns for Technology*. Emeryville: Logonet Inc, 1987.

Flusser, Vilém. *The Shape of Things: a philosophy of design*. London: Reaktion, 1999.

Foltz, Bruce V. *Inhabiting the Earth*. New Jersey: Humanities Press International, 1995.

Foucault, Michel. *Discipline and Punish: the Birth of the Prison*. Trans. Alan Sheridan. London: Allen Lane Penguin, 1977.

_____. *The Order of Things: an Archaeology of the Human Sciences*. New York: Vintage Books, 1973.

_____. "What is Enlightenment?" *The Foucault Reader*. Ed. Paul Rabinow. London: Penguin Books, 1984.

Fox, Barry. "Wasted Watts." *New Scientist*. 14 Feb. 1998: 8.

- Fray, Peter. "It's not about your body, it's how well you look". *The Sydney Morning Herald*. 7-8 December 2002: 1.
- Fry, Tony. *Green Desires: Ecology, Design, Products*. Sydney: EcoDesign Foundation, 1992.
- _____. *Remakings: Ecology, Design, Philosophy*. Sydney: Envirobook, 1994.
- _____. *A New Design Philosophy: an introduction to defuturing*. Sydney: UNSW Press 1999.
- Fry, Tony ed. *RUATV? Heidegger and the Televisual*. Sydney: Power Institute of Fine Arts, 1993.
- Fry, Tony and Anne-Marie Willis eds. *Waste not Waste*. Sydney: EcoDesign Foundation, 1997.
- Geary, James. "Brain Power." *Time Special Interactive Technology Issue 4* June, 2001: 48-49.
- Gergen, Kenneth J. *The Saturated Self: Dilemmas of Identity in Contemporary Life*. New York: Basic Books, 1991.
- Gertsakis, John and Chris Ryan. *Short Circuiting Waste from Electrical and Electronic Products*. Melbourne: Centre for Design, RMIT, 1996.
- Gibaldi, Joseph. *MLA Style Guide to scholarly publishing*. New York: Modern Languages Association of America, 1998.
- Gill, Jerry H. *Merleau-Ponty and Metaphor*. New Jersey: Humanities Press International, 1991.
- Gordon, Ian E. *Theories of Visual Perception*. Chichester: John Wiley & Sons, 1989.
- Gottdiener, M. *Postmodern Semiotics: Material Culture and the Forms of Postmodern Life*. Cambridge and Oxford: Blackwell, 1995.
- Graedel, T.E. and B.R Allenby. *Industrial Ecology*. New Jersey: Prentice Hall, 2003.
- Green Cross International. *An Environmental Assessment of Kuwait, Seven Years After the Gulf War*. Geneva: Green Cross International, December 1998.

- Greenwood, Helen. "See-Though Society". *The Sydney Morning Herald*, 4 March, 2000.
- Guattari, Felix. *The Three Ecologies*. Trans. Ian Pindar and Paul Sutton. London and New Jersey: The Athlone Press, 2000.
- Guppy, Marla. "Communities, Environments and Cultural Identity". *Places not Spaces: Placemaking in Australia*. Ed. Tamara Winikoff, Sydney: Envirobook, 1995.
- Hajer, Maarten. *The Politics of Environmental Discourse: Ecological Modernisation and the Policy Process*. Oxford: Clarendon Press, 1995.
- Hajer, Maarten and Frank Fischer eds. *Living with Nature: Environmental Politics as Cultural Discourse*. Oxford: Oxford University Press, 1999.
- Hamilton, Clive. *Growth Fetish*. Crows Nest, NSW: Allen & Unwin, 2003.
- Harris, Daniel. *Cute, Quaint, Hungry and Romantic: The Aesthetics of Consumerism*. New York: Basic Books, 2000.
- Hawkes, Terence. *Structuralism and Semiotics*. London: Methuen, 1977.
- Hayward Philip and Tana Wollen eds. *Future Visions: New Technologies of the Screen*. London: British Film Institute, 1993.
- Heidegger, Martin. *Being and Time*. Trans. John Macquarrie and Edward Robinson. London: Basil Blackwell, 1982.
- _____. *Being and Time*. Trans. Joan Stambaugh. Albany: State University of New York Press, 1996.
- _____. *The Basic Problems of Phenomenology*. Trans. and Intro. Albert Hofstadter. Bloomington and Indianapolis: Indiana University Press, 1988.
- _____. *Basic Questions of Philosophy: Selected 'Problems' of 'Logic'*. Trans. Richard Rojcewicz and André Schuwer. Bloomington and Indianapolis: Indiana University Press, 1994.
- _____. *Basic Writings*. Ed. David Farrell Krell. London: Routledge, 1993.
- _____. *Pathmarks*. Ed. William McNeill. Cambridge: Cambridge University Press, 1998.

_____. *Poetry, Language, Thought*. Trans. Albert Hofstadter. New York: Harper and Row, 1975.

_____. *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*. Trans. William McNeill and Nicholas Walker. Indianapolis: Indiana University Press, 1995.

_____. *The Metaphysical Foundations of Logic*. Bloomington: Indiana University Press, 1984.

_____. *The Question Concerning Technology and other essays*. Trans. William Lovitt. New York: Harper and Row, 1977.

_____. *What is a Thing?* Trans. W B Barton, Jr. and Vera Deutsch. Chicago: Henry Regnery, 1967.

Heiskanen, Eva. "Institutionalization of Life-Cycle Thinking in the Everyday Discourse of Market Actors." *Journal of Industrial Ecology*. 4.4 (2001): 31-45.

Hoffmeyer, Jesper. *Signs of Meaning in the Universe*. Trans. Barbara J. Haveland. Bloomington and Indianapolis: Indiana University Press, 1993.

Hogarth, Murray. "Unnatural Acts." *The Sydney Morning Herald*. 10 July, 1999: 21.

Holston, James. *The Modernist City: An Anthropological Critique of Brasilia*. Chicago: University of Chicago Press, 1989.

Honey, Elizabeth. *The Cherry Dress*. Crows Nest: Allen and Unwin, 1999.

Ihde, Don. *Technology and the Lifeworld: From Garden to Earth*. Bloomington and Indianapolis: Indiana University Press, 1990.

_____. *Philosophy of Technology: An Introduction*. New York: Paragon House, 1993.

Jullien, Francois. *The Propensity of Things: Toward a History of Efficacy in China*. Trans. Janet Lloyd. New York: Zone Books, 1999.

Kant, Immanuel. *An Immanuel Kant Reader*. Ed. and trans. Raymond B. Blakney. New York: Harper and Brothers, 1960.

Kellehear, Allan. *The Unobtrusive Researcher: a guide to methods*. St. Leonards, NSW: Allen & Unwin, 1993.

- Kokelkoren, Petran. "Towards a Technological Intimacy with Things." *Research in Philosophy and Technology*. 17 (1998): 45-57.
- Koren, Leonard. *Wabi-Sabi for Artists, Designers, Poets & Philosophers*. Berkeley: Stone Bridge Press, 1994.
- Lacan, Jaques. *The Four Fundamental Concepts of Psycho-Analysis*. Trans. Alan Sheridan. New York: Norton, 1977.
- Lacoue-Labarthe, Philippe. *Heidegger, Art and Politics: The Fiction of the Political*. Trans. Chris Turner. Oxford: Basil Blackwell, 1990.
- _____. *Typography: Mimesis, Philosophy, Politics*. Cambridge: Harvard University Press, 1989.
- Lasch, Christopher. *The Culture of Narcissism*. London: Abacus, 1980.
- Lasn, Kalle. *Culture Jam: How to Reverse America's Suicidal Consumer Binge - and Why We Must*. New York: Quill, 2000.
- Lawrence, Felicity. "Suffering that has no Face." *The Sydney Morning Herald*, 13-14 October, 2001.
- Levin, David Michael. *The Body's Recollection of Being: Phenomenological Psychology and the Deconstruction of Nihilism*. London and Boston: Routledge & Kegan Paul, 1985.
- _____. *The Listening Self: Personal Growth, Social Change and the Closure of Metaphysics*. London: Routledge, 1989.
- _____. *The Opening of Vision: Nihilism and the Postmodern Situation*. London: Routledge, 1988.
- Levin, David Michael ed. *Modernity and the Hegemony of Vision*. Berkeley: University of California Press, 1993.
- Lewis, C.S. *The Problem of Pain*. Glasgow: Fount, 1986.
- Lewis, Helen and John Gertsakis. *Design + Environment: a global guide to designing greener goods*. Sheffield: Greenleaf Publishing, 2001.
- Logonet, Inc. *Introduction: Business Concerns for Technology*. Emeryville: Logonet Inc., 1987.
- Luhmann, Niklas. *Ecological Communication*. Trans. John Bedartz Jr. Cambridge: Polity Press, 1989.

_____. "Limits of Steering". *Theory, Culture & Society*. London, Thousand Oaks and New Dehli: Sage, 14.1 (1997): 41–57.

_____. *The Reality of the Mass Media*. Trans. Kathleen Cross. Cambridge: Polity Press, 2000.

Lull, James. *Inside Family Viewing: Ethnographic Research on Television's Audiences*. London: Routledge, 1990.

Lupton, Ellen and J. Abbott Miller. *Design Writing Research: Writing on Graphic Design*. New York: Kiosk, 1996.

MacKenzie, Debora. "Still at Large: PCB's dangerous cousins have slipped through the UN's net." *New Scientist*. 4 Jul. 1998.

Manzini, Ezio. "Plastics And The Challenge Of Quality." Unpublished manuscript, 1992.

_____. and C. Vezzoli. "Product-Service Systems and Sustainability: Opportunities for Sustainable Solutions." Paris: UNEP, 2002.

_____. "Scenarios of Sustainable Wellbeing." *Design Philosophy Papers Collection One*. Ed. Anne-Marie Willis. Ravensbourne: Team DES, 2004.

_____. and François. Jégou. *Sustainable Everyday: Scenarios of Urban Life*. Milan: Edizioni Ambiente, 2003.

_____. "The garden of designed objects." *Metropolis*. 10.9 (1991): 51-53

_____. *The Material of Invention*. Cambridge: MIT Press, 1986.

_____. "The world of materials and the material world." Unpublished manuscript, 1995.

_____. "Towards a New Ecology of the Artificial Environment: Design within the limits of possibilities and the possibilities of limits." Unpublished manuscript, 1992.

_____. "Toward a new product-service mix." a paper given at the *Eternally Yours Congress* 1997.

Margolin, Victor. *The Politics of the Artificial*. Chicago and London: The University of Chicago Press, 2002.

- Margolin, Victor and Richard Buchanan eds. *The Idea of Design: a Design Issues Reader*. Cambridge: MIT Press, 1995.
- Marsh, Nick, Mike McAllum and Dominique Purcell. *Strategic Foresight: the Power of Standing in the Future*. Melbourne: Crown Content, 2002.
- Maturana, Humberto R. and Francisco J. Varela. *The Tree of Knowledge: the Biological Roots of Human Understanding*. Trans. Robert Paolucci. Boston and London: Shambhala, 1992.
- Mau, Bruce. *Life Style*. London: Phaidon, 2000.
- McCann-Erickson. *Can Sustainability Sell?* McCann-Erickson World Group, 2000.
- McDonough, William and Michael Braungart. *Cradle to Cradle*. New York: North Point Press, 2002.
- McHoul, Alec. *Semiotic Investigations: Toward an Effective Semiotics*. Lincoln and London: University of Nebraska Press, 1996.
- _____. "The Being of Culture, Beyond Representation." 26 May, 1999. <www.murdoch.edu.au/~mchoul/being.html>.
- McKenzie Mohr, Doug and William Smith. *Fostering Sustainable Behaviour: an introduction to Community-Based Social Marketing*. New Society Publishers: Gabriola Island, 1999.
- McKibben, Bill. *The End of Nature*. London: Viking, 1990.
- _____. "Why the Nature Paparazzi should lay off a little." *The Australian Financial Review*. 14 November, 1997.
- McLuhan, Marshall. *Understanding Media: the extensions of man*. London: Routledge & Kegan Paul, 1967.
- Mellencamp, Patricia, ed. *Logics of Television: essays in cultural criticism*. Bloomington: Indiana University Press, 1990.
- Mellick, Abby. "Designing the Ground: The Infrastructure of Productivism." *Form/Work*. Ed. Mark Stiles. 1.1 (1997).
- Mellick, Abby. "Our Electromagnetic Environment: Keeping in Touch." EcoDesign Foundation *Information Ecology* November, 1998.

Merleau-Ponty, Maurice. *The Visible and the Invisible*. Trans. Alphonso Lingis. Evanston: Northwestern University Press, 1995.

_____. *The Phenomenology of Perception*. Trans. Colin Smith. London and New York: Routledge & Kegan Paul, 1962.

_____. *The Primacy of Perception*. Ed. James M. Edie. Evanston: Northwestern University Press, 2000.

Merquior, J.G. *From Prague to Paris: a critique of structuralist and poststructuralist thought*. London: Verso, 1986.

Miller, Daniel. *Material Culture and Mass Consumption*. Oxford and Cambridge: Basil Blackwell, 1987.

Miller, Toby and Alec McHoul, eds. *Popular Culture and Everyday Life*. London: Sage, 1998.

Mitchell, W.J.T. "Biocybernetic Reproduction." Lecture given at the Museum of Contemporary Art, August 15, 2001.

Monaco, James. *How to Read a Film: the Art, Technology, Language, History and Theory of Film and Media*. New York and Oxford: Oxford University Press, 1981.

Mostafavi, Mosen and David Leatherbarrow. *On Weathering: the life of buildings in time*. Cambridge: The MIT Press, 1993.

Myerson, George. *Ecology and the End of Postmodernity*. Cambridge: Icon Books, 2001.

_____. *Heidegger, Habermas and the Mobile Phone*. Cambridge: Icon Books, 2001.

Naess, Arne. *Ecology Community and Lifestyle*. Trans. and ed. David Rothberg. Cambridge: Cambridge University Press, 1989.

Nancy, Jean-Luc. *The Inoperative Community*. Trans. Peter Connor et. al. Minneapolis: University of Minnesota Press 1991.

Nemeth, Christopher. "Get Real: the Need for Effective Design Research." *Visible Language* 37.1 (2003): 93-109.

Norman, Donald. *Emotional Design: why we love (or hate) everyday things*. New York: Basic Books, 2004.

_____. *The Invisible Computer*. Cambridge: MIT Press, 1997.

_____. *The Design of Everyday Things*. New York: Doubleday/Currency, 1990.

_____. *Turn Signals are the Facial Expressions of Automobiles*. Cambridge: Perseus Publishing, 1992.

Ormiston, Gayle L. and Alan D. Schrift, eds. *Transforming the Hermeneutic Context: from Nietzsche to Nancy*. Albany: State University of New York Press, 1990.

Papanek, Victor. *Design for the Real World: Human Ecology and Social Change*. London: Thames & Hudson, 1984.

_____. *The Green Imperative: ecology and ethics in design and architecture*. London: Thames & Hudson, 1995.

Rayl, A. J. S. "Pollutants without Borders." *The Scientist*. 2 Sept. 2002. <www.the-scientist.com>.

Readings, Bill. *The University in Ruins*. Harvard University Press: Cambridge, Massachusetts and London, 1996.

Ritzer, George. *The MacDonaldisation of Society: an Investigation into the Changing Character of Contemporary Social Life*. Thousand Oaks: Pine Forge Press, 1996.

Robinson Thomas N. et. al., "Effects of Reducing Children's Television and Video Game Use on Aggressive Behaviour: a Randomized Controlled Trial." *Archives of Pediatrics and Adolescent Medicine*. 155.1 (2001): 17-23.

Ronell, Avital. *Finitude's Score: Essays for the end of the Millennium*. Lincoln & London: University of Nebraska Press, 1994.

_____. *The Telephone Book: Technology, Schizophrenia, Electric Speech*. Lincoln: University of Nebraska Press, 1989.

_____. "Interview with Avital Ronell." *Now Time*. (1993): 28.

Rose, Gillian. *Visual Methodologies*. London, Thousand Oaks, New Delhi: Sage, 2001.

Ross, Andrew ed. *No Sweat: Fashion, Free Trade, and the Rights of Garment Workers*. London: Verso, 1997.

_____. *Strange Weather: Culture, Science and Technology in the Age of Limits*. London and New York: Verso, 1991.

_____. "The Ecology of Images." *The South Atlantic Quarterly*. 91:1. 1992: 215-238.

Ryan, Chris. *Sustainable Consumption: A Global Status Report*. United Nations Environment Program, 2002. July 14, 2004.
<www.uneptie.org/pc/pc/gs2002.htm>.

Scarry, Elaine. *The Body in Pain: the Making and Unmaking of the World*. Oxford: Oxford University Press, 1985.

_____. "The Fall of TWA: The possibility of electromagnetic interference." *The New York Review of Books*, April 9, 1998: 59-76.

_____. "TWA 800 and Electromagnetic Interference: work already completed and work that still needs to be done." *The New York Review of Books*, 5 Oct, 2000. December 5, 2004 <www.nybooks.com/articles/13896>.

Schön, Donald. *The Reflective Practitioner: How Professionals Think in Action*. Aldershot, England: Arena, 1991.

Sellen, Abigail J. and Richard H.R. Harper. *The Myth of the Paperless Office*. Cambridge: MIT, 2002.

Sontag, Susan. *On Photography*. New York: Farrar, Straus and Giroux, 1977.

Spinosa, Charles, Fernando Flores and Hubert Dreyfus. *Disclosing New Worlds*. Cambridge and London: MIT Press, 1997.

Standish, Paul. "Fetish for Effect." *The Journal of the Philosophy of Education Society of Great Britain*. 2000.

Stanton, Neville A. and Mark S. Young. *A Guide to Methodology in Ergonomics: Designing for Human Use*. London and New York: Taylor and Francis, 1999.

Sygma photographers, *In the Eye of Desert Storm: photographers of the Gulf War*. New York: Harry N. Abrams: Professional Photography Division of Eastman Kodak Company, 1991.

Tagg, John. *The Burden of Representation*. London: Macmillan, 1988.

Tanqueray, Rebecca. *Eco Chic: Organic Living*. Sydney: New Holland Publishers, 2000.

- Time/Life. *The Epic of Man*. New York: Time Life Books, 1961.
- Tonkinwise, Cameron. "Everywhere and Nowhere: an Introduction to Plastics." EcoDesign Foundation *Information Ecology* September, 1998.
- Turkle, Sherry. *The Second Self: Computers and the Human Spirit*. New York: Simon and Schuster, 1984.
- Van Hinte, Ed. *Eternally Yours: visions on product endurance*. Rotterdam: 010 Publishers, 1997.
- Van Toorn, Jan ed. *Design Beyond Design*. Amsterdam: Jan van Eyck Akademie editions, 1998.
- Verbeek, Peter-Paul and Petran Kockelkoren. "The Things that Matter." *Design Issues*. Eds. Richard Buchanan and Victor Margolin. 14. 3 (1998): 28-42.
- Vidal, John . "DiCaprio film-makers face storm over paradise lost." *The Guardian*. 29 Oct., 1999.
- Viner, Katherine. "Hand-to-brand Combat." *Sydney Morning Herald Good Weekend* 11 Nov., 2000.
- Walker, John A. *Design History and the History of Design*. London: Pluto Press, 1989.
- Wark, Mckenzie. *Virtual Geography: Living with Global Media Events*. Bloomington and Indianapolis: Indiana University Press, 1994.
- Webb, Eugene J., Donald T. Campbell, Richard D. Schwartz and Lee Sechrest. *Unobtrusive Measures*. Thousand Oaks: Sage Publications, 2000.
- Weber, Samuel. *Mass Mediauras: Form, Technics, Media*. Ed. Alan Cholodenko. Sydney: Power Publications, 1996.
- Weidema, Bo Pedersen. *Environmental Assessment of Products: A textbook on Life Cycle Assessment*. Helsinki: The Finnish Association of Graduate Engineers, TEK 1997.
- Whiteley, Nigel. *Design for Society*. London: Reaktion Books, 1993.
- Williams, Raymond. *Keywords*. London: Fontana Paperbacks, 1983.

Williamson, Judith. *Decoding Advertisements: Ideology and Meaning in Advertising*. New York and London: Marion Boyars, 1983.

Willis, Anne-Marie. "Redirective Practice: Ontological Designing." *Design Cultures* conference, Sheffield-Hallam University, 1999.

Winograd, Terry and Fernando Flores. *Understanding Computers and Cognition: A New Foundation for Design*. New York: Addison Wesley, 1990.

Wolfe, Cary. "Critical Environments: Postmodern theory and the Pragmatics of the 'Outside'." *Theory Out of Bounds* 13. Eds. Sandra Buckley, Michael Hardt and Brian Massumi. Minneapolis: University of Minnesota Press, 1998.

World Commission on Environment and Development (WCED). *Our Common Future*. Oxford: Oxford University Press, 1987.

Worster, Donald. *Nature's Economy: A History of Ecological Ideas*. Cambridge: Cambridge University Press, 1994.

Yates, Darren. "Trash or Treasure." *The Sydney Morning Herald*. 28-29 Apr. 2001.

Zillman, Dolf and Jennings Bryant. *Selective Exposure to Communication*. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1985.

_____. "Entertainment as Media Effect." *Media Effects: Advances in Theory and Research*. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1994. 437-461.

Zimmerman, Michael E. *Heidegger's Confrontation with Modernity: Technology, Politics, and Art*. Bloomington and Indianapolis: Indiana University Press, 1990.

