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Chapter 8

The Biomediation of Affect: Technological Indeterminacy as Transduction in *Teknolust*

If a living organism is a system that reacts independently to individual existence, then the dynamic image system that consists of multi-sensory variables and reacts to input is also a living organism.

The incredible violence of genetic simulation ... is the final phase of a process our modern technologies have simply speeded up: the process of an ideal counterfeiting of the world, allied to the phantasm of an immortal recurrence. In other words, the perfect crime: the work of finishing off the world, for which we now have to undergo a process of mourning.

The reconfiguration of the human-technological interface cuts across both of the above quotations, posing the question: wherein lies the specificity of organic life and in what ways can it be imitated by technology? In Peter Weibel's conviction that a dynamic and responsive multi-sensory image system could be understood as a living organism, we see life defined as a reactive autonomous system. In Jean Baudrillard's declaration that, as the perfect crime, cloning enacts a deceitful imitation of life, motivated by a desire for immortality, we see the particularity of human life destroyed by the culmination of futile modern technological insanity (see Chapter One). Pulling in almost opposite directions (life's reiterative potentiality versus the end of life as we know it), these two quotations share a concern with the transformation of the vitality of human life in relation to the artifice of digital and informational systems, on the one hand, and genetic engineering and cloning, on the other.

This chapter follows the previous one closely in its concern with disturbances to the previously foundational claims of both image and body and with the technical intersections their shared loss of singularity.¹ Unlike Baudrillard, for whom biology is profoundly threatened by genetic engineering and cloning, Eugene Thacker argues that biotechnologies, far from signifying the end of biology as a grounding mechanism for culture, signify instead the need to rethink the boundaries between the two. How might new modes of life within biogenetics, for example, be thought through in terms of affect? Or to put it more succinctly: 'what is "biomolecular affect"? We are used to thinking of affect and phenomenological experience generally in anthropomorphic terms', Thacker suggests, but '[I]s there a phenomenology of molecular biology? Are there zones of affect specific to the molecular domain and irreducible to ... anthropomorphisms? What would such an analysis say concerning our common notions of embodied subjectivity?' . Reformulating the relationship between bodies and technologies, he asks: 'what would it mean to approach the body as media in itself?' .

In his formulation of biomedica, Thacker draws on David Bolter and Richard Grusin's theory of the double logic of 'remediation' in which they identify a contradictory imperative in the current cultural desire for 'immediacy and hypermediacy', the desire both to 'multiply its media and to erase all its traces of mediation' . Thacker sees similar contradictory desires operating towards the body: 'our culture wants to render the body immediate, while also multiplying our capacity to technically control the body' . For

Thacker, the convergence of information and genetic science rebiologises the body, recontextualising it as a “body more than a body”, where ‘the body you get back is not the body you began with’ . He defines biomedica as:

particular mediations of the body, optimizations of the biological in which ‘technology’ appears to disappear altogether. With biomedica, the biological body is not hybridized with machines ... Nor is it supplanted by the machine ... [instead] the intersection between genetic and computer ‘codes’ facilitates a qualitatively different notion of the biological body – one that is technically enhanced but still fully ‘biological’. ... a particular instance in which the ‘bio’ is transformatively mediated by the ‘tech’, so that the ‘bio’ reemerges more fully biological.

The rendering of the body as immediate through our enhanced sense of its biological presence, whilst erasing any sense of its technological mediation, and the resulting tension between rendering the body ‘immediate’ and wanting to ‘technically control the body’, are central threads running through this chapter.

The question of whether affect can be attributed to non-human biological agents surfaces in a number of films about genetic engineering and cloning discussed so far in this book: in *Alien Resurrection* (Jean-Pierre Jeunet), Ripley has to be humanised through an explosive encounter with affect, while Call the robotic cyborg who is programmed to care; in *Species* (Roger Donaldson, 1995), the black ‘empath’ (Dan Smithson) is so tuned in to the affect of others that he can predict the monstrous Sil’s next move; and in *Code 46* (Michael Winterbottom, 2003), William’s empathy virus represents the ultimate fantasy of ubiquitous vision so often attributed to (and yet sometimes escaping) the white detective or investigator in science fiction and film noir. In all these films, the facility for an affective response is repeatedly mobilised as the marker of the boundary between the human and the artificial. For Thacker, the possibility of biomolecular affect promises the dissolution of these traditional distinctions. What interests me here is how the search for affect amongst genetically engineered imposters might be read as symptomatic of a wider desire for authenticity in a world of increasing technological convergence. As we shall see, the importance of embodying affect (rather than merely enacting it) is central to imagining cloned futures on the screen. If affect no longer belongs

exclusively to the human, or rather to the original human, how might we sense its presence, and what technically mediated registers are implicated in such a process? This ‘desire for affect’, as Marie-Luise Angerer puts it, belongs to a more general turn to affect within social and cultural theory.ⁱⁱ In Chapter 3, I examined how the genetically engineered reproductive body, imagined as informational and computational code, demands new forms of legibility and intelligibility. In this chapter, I investigate the immersive and citational blending of cinematic, biogenetic and informational technologies, and their respective reconfigurations of boundaries between the living and the non-living, and between the real and the artificial.

I

Pastiche is blank parody, parody that has lost its humour

(Fredric Jameson, 1983: 114)

Teknolust (Lynn Hershman Leeson, 2002) is a witty pastiche of science fiction and film noir motifs blended with the tongue-in-cheek tracking the mobility and mutability of informational matter that flows between human bodies and artificial life forms, and between the cinema and computer screen.ⁱⁱⁱ Produced, written and directed by independent artist and filmmaker, Lynn Hershman Leeson, *Teknolust* synthesises multiple incarnations of figures, scenarios and interactions from Leeson’s previous cyberworks, installations, performances and first feature film, *Conceiving Ada* (1997). ‘The Dollie Clones’ (1995-1998) are reworked here as the digital triplets who are the film’s multiple protagonists. Citing the artists’ own historical repertoire of configurations, the film is saturated with opportunities for a knowing audience to get the joke or recognise the reference to the world of art, science, experimental performance and film (see Tromble, 2005). If, as Richard Dyer (2007) argues, pastiche best describes a form with imitative intent which seeks to be *appreciated as imitation*, *Teknolust* builds the pleasures of recognition into its formal artistic and cinematic references. Just as cycles of popular genre speak to the cinema audience’s cumulative knowledge of their formal histories, so this independent film dialogues with its audience by recycling past incarnations of the director’s and other artistic work on the technologised body. Throughout the film, the medium’s own history

becomes a resource for sustaining the three digital clones, as citation becomes the central trope for playing with the endless convergences of biological and cultural forms of imitation. The increasingly co-constitutive potentialities of scientific and cinematic techniques are explored through the film's citational aesthetic. Permeated by references to the place of the figure of the woman within the history of cinema, *Teknolust* literalises the notion of Hollywood as the 'dream machine' (as we shall see), whilst pushing the place of the woman as object of its structuring masculine desires to its tropic limits. Bringing the much debated scientific and cinematic drives to control the sexual and reproductive body of the woman within a shared frame,^{iv} the film foregrounds the processes of the artifice of femininity within each, using deadpan humour, absurdly excessive reiterations and multiple intertextual citations. *Teknolust* is perhaps best characterised as art film pastiche that speaks back to the mainstream of both science and the cinema.

The narrative concerns biogeneticist, Rosetta Stone^v (Tilda Swinton), who has secretly downloaded her own DNA and combined it with computer software to engineer three self-replicating automata (SRA's), also all played by Tilda Swinton, who look human but function as intelligent machines. In order to survive, the SRAs need regular injections and infusions of sperm/seed to top up their constantly depleting levels of Y chromosome and thus Ruby, one of Rosetta's offspring, seduces random men to retrieve sperm for herself and her clone sisters. Suspected of illegal genetic experimentation by her colleague Professor Crick (John O'Keefe), when a mysterious virus begins infecting men in the area, security Agent Hopper (James Urbaniak) is called in to investigate Dr Stone. Since the virus is only infecting men (causing impotence and a strange barcode to appear revealingly on their foreheads), a 'gender terrorism' expert (whose nose for imposture seems to come from her own transgendered history) Dirty Dick (Karen Black) assists with the investigation. Meanwhile, Ruby finds authenticity by forging a romantic attachment to her neighbour, Sandy, the shy boyish operator at the photocopy shop, who is more concerned with conducting the rhythms of the machines than with the clarity of the copies they produce^{vi}. Pasticheing the gendered conventionality of film noir and science fiction, this surreal narrative moves towards closure through citational investigations of these genres. The film's main preoccupation is thus not with solving the genetic crime (which in noir style is inextricable from feminine sexuality) but rather with the convergence of the conventions of Hollywood cinema and of scientific imaging in the context of the new imagined vitalities of digital and

cloning cultures.

Opening with an animated strand of spiralling, blue fluorescent DNA which appears and disappears against a black background to the haunting rhythm of repetitive electronic music with a female vocalise, the first scene performs a series of cinematic citations to set the stage for what later proves to be a biomediated one: digital cloning. Two spiralling DNA strands in the same deep blue tones frame the outline of a woman's face dappled by pixelation, as she gazes directly at camera. As the same woman (Tilda Swinton) then dresses for seduction in front of a triptych mirror like a 1940s femme fatale, the shot sequence moves from single to double to triple reflections, culminating in one of the woman standing in front of her own multiple appearances in the triptych mirror in front of her. Referencing a number of Hollywood's most famous noir films, such as *Double Indemnity* (Billy Wilder, 1944) and *The Lady from Shanghai* (Orson Welles, 1947), the scene rehearses the long-standing association of femininity, image and treachery of which feminist critics have written so eloquently.^{vii} As in classic film noir, the femme fatale's lethal desirability lies in her duplicity as enigmatic image emphasised through the use of diegetic frames within frames. As in the classic Hollywood original, the masquerade of femininity is built into the cinematic apparatus itself.^{viii} The performative display of artifice transforms the double into the multiple, and duplicity into multiplicity, prefiguring the narrative exploration of the biological imitations that follows. Exaggerating the clichéd iconography of feminine desirability (long sleek hair, white skin, matching red nails and lipstick), the opening scenes move from sci-fi style shots of fluorescent blue DNA to a classic noir seduction scenarios. The film's haunting, dreamy, electronic soundtrack, combined with these familiar elements of noir mise-en-scène, invoke both a nostalgic sense of cinematic fantasies of idealised femininity and a feeling of anticipation of the futuristic artificial possibilities of science fiction. Sharing the deep blue colour of the spiralling DNA before her pixelated image is transformed into her 'live' celluloid version in the shower scene, the femme fatale here is the sign that condenses the potential animations and mutations of both science and the cinema.

Defying expectations generated by the promise of the film's title (and by its pseudo pornographic opening), the sexual seduction performed here is marked by its brevity and almost scientific efficiency (rather than the passion or eroticism). A series of close-up shots fading to black appear in rapid succession

to the rise and fall of deep breathing which gives a sense of biological rhythm to the visual sequence. The woman appears in control of what seems to be a repetition of a highly rehearsed sequence, the sense of precision in this bizarrely ritualised sexual scenario displaying a series of mysterious clues to the spectator. Like the generic conventions it cites, the very tight set of rules of the *mise-en-scène* of the opening seduction, connect the artifice of science and the cinema through a geneticised sense of rehearsal, repetition, sequence and predictability.

The three digital clones, or self-replicating automata (SRA's) embody a tension between sameness and difference which give surface appearance to their hidden (and clandestine) imitative origins. Half human, half machine, these recombinant triplets are an amalgam of genetic and computational material, embodying what Adrian Mackenzie calls the 'indeterminacies of biotechnology'. They are both living and non-living, human and non-human, authentic and artificial, individual and multiple; they are Rosetta Stone's cyborg offspring, both her sisters and her daughters, both like and unlike their progenitor and each other. The sense of their artificial genetic sameness is humorously produced through a rhymed visual aesthetic of shape, surface, texture and contour (their identical silk kimonos, matching bed linen and minimalist décor in their rooms) but their different colours mark out a type of comic-book individuality: Ruby (the red one), Marinne (the blue one) and Olive (the green one). This *difference in sameness* is humorously articulated through a colour coding of the distinctions in their physical appearance: the brunette, the blonde, the redhead – one of each type of traditional white femininity. If the different colours of the clones (hair and clothes) offer a visual pun on the way Hollywood has circulated different types of white femininity (ultimately the same fantasy), then the artifice of difference made visible here can also be read as bringing eastern as well as western conventionalised ideals into the frame. Combined with the Geisha-style silk kimonos, Ruby's ritualised precision in the extraction of sperm and the preparation of semen infusions, it is hard not to read her performance through an orientalist aesthetic of service.^{ix} Seen in this light, the visibility of difference in sameness in the film is a question of racialised, as well as geneticised, typing. The clichéd orientalist view of the problem of distinguishing between non-western people (they all look the same) is transposed onto the cloned triplets. Anxieties about the legibility of difference on the surface of the body when faced with replications and multiplicities (in both the racialised and the genetic sense) are solved for the spectator

through the literalisation of the idea of colour coding (if you can't see the difference, the colour coding will guide you). These visible differences between the white clones transform biological distinctions into cultural ones, or rather articulates genetics as aesthetics.

The mimicking of the logic of the colour coding of the RGB (red, green, blue) components in video computer signals, refers to the technological convergence between digital and genetic sampling. Digital cloning is given a visual life through the simultaneous co-presence of Tilda Swinton playing the three clones on screen, achieved either with the use of doubles or with a split screen and digital composited. Shot on a 24 frame, high definition digital camera and later transferred to film, the vivid, largely primary, colour aesthetic of *Teknolust* has a comic book sensibility, giving it a hyper-real quality in which the virtual becomes more real than the real and the clone more alive than the scientist. The mise-en-scène throughout the film is governed by a preoccupation with resemblance, copying and imitation, through which genetic engineering is embedded within the interplay of technological convergence.

II

Transduction: '*Microbiology*. The transfer of genetic material from one cell to another by a virus or virus-like particle' (*OED* 3).

Adrian Mackenzie argues that biotechnology actually 'heightens the experience of inseparability between the living and the non-living'. As Mackenzie suggests, when thinking about the problem of how to formulate what is at stake in biotechnology, there is a need to 'highlight a formative and radically contingent *collective* entwining between living bodies and information, rather than an interfacing of individual bodies with machines'. Instead of assuming that something 'living animates technology', Mackenzie contends that biotechnology involves 'a kind of design, and a kind of engineering, but a designing that intimately associates living and non-living elements' producing a troubling status, which challenges traditional systems

of representation and thought .

Following the French philosopher, Gilbert Simondon, Mackenzie attempts to redress what he consider to be the ‘misguided opposition between culture and technology’ inherent in notions such as the human/machine interface . Pushing beyond traditional conceptualisations, Mackenzie examines how biogenetic technologies (or ‘technicities’ as Mackenzie [2002] calls them) reconfigure the relationship between human bodies and forms of technical artifice in the current ‘distributed ensemble of living and non-living actors’ that constitute biogenetic technology. What he calls the ‘*indeterminate status* of this complication of the living and the non-living’ (Mackenzie, captures here the problem of how to imagine the oneness of the two (or even the three) of cloning. For Mackenzie , technicity ‘refers to a side of collectives which is not fully, represented or symbolized, yet which remains fundamental to their grounding, their situation and the constitution of their limits’ .

For Mackenzie the concept of ‘transduction’ offers a potential alternative to the limits of current thinking about the misconceived ‘human/non-human interface’ of current biotechnologies, for it helps reframe the ‘thinkability’ of technology, highlighting a ‘margin of contingency’ or indeterminacy which ‘participates in the constitution of collectives’. As he goes on to explain: ‘the hallmark of a transductive process is the *intersection and knotting together of diverse realities*’ . Mackenzie ties together technicity and transduction by arguing that technicity is a kind of transduction, since ‘technicity’ is that ‘quality of an element by which what has been acquired in a technical ensemble expresses and conserves itself in being transported to a new period’ . According to Simondon’s definition of transduction:

This term denotes a process – be it physical, biological, mental or social – in which an activity gradually sets itself in motion, propagating within a given domain, by basing this propagation on a structuration carried out in different zones of the domain: each region of the constituted structure serves as constituting principle for the following one, so much so that a modification progressively extends itself at the same time as this structuring operation ... The transductive operation is an *individuation in progress*; it can physically occur most simply in the form of progressive iteration. However, in more complex domains, such as the domains of vital metastability or psychic

problematics, it can move forward with a constantly variable step, and expand in a heterogeneous field.

For Mackenzie, Simondon's emphasis on 'ontogenesis' (on how something comes to be) rather than 'ontology' (on what something is) unites the concepts of both transduction and technicity and marks 'a mode of thought focused on a *unity of becoming* rather than a *unity of substance*'. In molecular biology, transduction names the process by which genetic material is carried over into the DNA of a bacteria by means of a virus, but examples of transductions range from the physical (such as the growth of a seed crystal suspended in liquid) to the mental processes of thought and affect where 'constantly varying rhythms' oscillate in a 'field structured by differences and repetitions'. Transduction importantly arises from the 'non-simultaneity ... of a domain' or to put it another way the fact that the domain is '*not fully simultaneous or coincident with itself*'.

The original usage of 'transduce' meant 'a leading over, a removing from one place to another', from the Latin 'trans' (across) and 'ducere' (to lead). Whilst the consistent marker across the diverse definitions is transformation, the focus of the transfer remains variable. In the twentieth century, the verb was used in a number of technical contexts to mean 'to alter the physical nature or medium of (a signal); to convert variations in (a medium) into corresponding variations in another medium' (*OED 1*). A transducer is 'any device by which variations in one physical quantity (e.g. pressure, brightness) are quantitatively converted into variations in another (e.g. voltage, position)'.^x What is interesting about the etymology of the term is the variability of the transpositions at stake: in acoustic measurement, the microphone must translate the message; in neuroscience, the rods must transform the light and in microbiology, the genetic material is constant but is transported from one site to another; in the fourth, the transducer, the variation is constant but appears in another form.

Transduction thus refers to multiple conversions, alterations and transportations of matter, medium and pattern, for it 'aids in tracking processes that come into being at the intersection of diverse realities

[which] include corporeal, geographical, economic, conceptual, biopolitical, geopoliticial and affective dimensions'. If transduction entails a 'knotting together of commodities, signs, diagrams, stories, practices, concepts, human and non-human bodies, images and place' which involve 'new capacities, relations and practices whose advent is not always easy to recognise' then for the purposes of this chapter, transduction might provide a conceptual route through the complexity of new life forms in the convergence of biogenetics, digitisation and the cinema. How might transduction help us think through those phenomena whose 'elements are assembled from non-living and living milieus'? We might place the 'distributed ensemble of living and non-living actors' of biotechnology in dialogue with the distributed ensemble of living and non-living actors on the digital cinema screen: the interplay of the illusory and the real, of the absent and the present, and of the live performance to camera and the virtual. We might ask how transduction helps us think about the ways in which the living and the non-living are 'grafted onto one another' cinematically .

III

Teknolust presents Ruby's body as the site of convergence of these two imitative modes. As an electronic clone, she already embodies the grafting of the living and the non-living onto one another and her recombinant materialisation continues to be performed throughout the film in the scenes of her acquisition of the art of feminine seduction from the female stars of Hollywood cinema, specifically, Hedy Lamar, Elizabeth Taylor and Kim Novak. The projection of classic romantic scenes from 1940s films across Ruby while she sleeps is Rosetta's solution to the problem of Ruby lacking an inherent (or inherited) capacity for seduction due to the absence of human drives. Following the night time absorption of the data on heterosexuality, Ruby randomly selects male strangers as partners (any man will do) seducing them with the decontextualised lines of the romantic heroines in the films, such as: 'don't let the celebration ever end' (Helen Ellswirth in *The Last Time I Saw Paris* [Richard Brooks, 1954]) and 'you're looking good tonight Johnny, you've got natural rhythm' (Molly in *The Man with the Golden Arm* [Otto Preminger, 1955]). These surreal sexual exchanges turn heterosexual seduction into a bizarre generic repetition, drawing attention to the banality of its content and the predictability of the male heterosexual response (they would all be willing

sexual partners even if she whispered the Greek alphabet in their ears). The film plays sexual stereotypes and cinematic clichés back to its audience in a deadpan style. The human and the non-human become almost indistinguishable here as the recharging of ‘the intelligent machine’ through sleep blends with the recharging of heterosexuality through cinematic/computational input. The cinema as a technology of idealised feminine heterosexuality is taken to comic absurdity as Ruby’s cloned body becomes the site of this doubled mimicry.

Writing of the creation of intelligent machines, Baudrillard suggests that:

If men create intelligent machines, or fantasize about them, it is either because they secretly despair of their own intelligence or because they are in danger of succumbing to the weight of a monstrous and useless intelligence which they seek to exorcise by transferring it to machines, where they can play with it and make fun of it.

If men dream of machines that are unique, that are endowed with genius, it is because they despair of their own uniqueness, or because they prefer to do without it – to enjoy it by proxy, so to speak, thanks to machines.

But what if women do? Following Marsha Kinder’s reading of *Teknolust* as a feminist intervention into the patriarchal relations of scientific knowledge production, we might respond to Baudrillard by asking: what if women invent intelligent machines or dream of machines that are unique? Kinder offers a reading of *Teknolust* as part of the director’s contribution to ‘a rich tradition of feminist works on technology and the body’. Celebrating the challenge to the masculinity of scientific genius, Kinder suggests that, like *Conceiving Ada*, *Teknolust* ‘really focuses on the relations between two equally brilliant women (here Ruby and Rosetta) who are both seeking agency in different realms and media and whose shadow relationship helps empower not only them but also the rest of us’. In many ways, she suggests the film belongs to a mischievous and celebratory strand within feminism from Haraway’s ‘cyborg manifesto’ onwards in which the post-human offers ways of reimagining the embodiment of gender, sexuality and reproduction.

As Kinder argues, the concept of downloading is key to *Teknolust*. Rosetta’s ‘nightly ritual of downloading old Hollywood movies to prepare Ruby for “real-life” encounters ... evokes Hershman’s own

intertextual strategies which try to reprogramme those of us who watch her movies'. The reiterative imperatives of heterosexuality as the site of conventionalised sexual relations extend from the re-screening of downloaded Hollywood films into Ruby's own reproductive quest. Biological formulas blend with cultural iconographies in a *mise-en-scène* of prosthetic mutability and interchangeability: the bedroom becomes clone laboratory, the microwave doubles as a computer screen, the photocopy machines combine to produce orchestral sound. Just as cinema becomes data for prosthetic sexual seductions, so these in turn produce biological components necessary for the sustenance of artificial life. Like vampiric addicts, the clones must have their daily shots and brews, and Ruby will go to any lengths to get their required male substance. The distinctions between human and non-human materialities dissolve as media messages programme sexual behaviour necessary for chromosomal input for electronic clone survival. As cellular appetite replaces sexual appetite, heterosexual seduction becomes a biological requirement for the survival of this new hybrid species.

In this deception of her male victims in the service of the reproduction of artificial life, Ruby becomes the transducer. If a transducer is 'any device by which variations in one physical quantity (e.g. pressure, brightness) are quantitatively converted into variations in another (e.g. voltage, position)' (*OED*), then Ruby secures 'chromosomal variation' in one physical quantity (semen) in order to convert it into another (the 'life blood' of artificial cloned bodies). To achieve this conversion Ruby's own body performs another, absorbing celluloid seduction and re-enacting them to acquire the requisite biological sustenance. As the transducer, Ruby's body is the switching point between cloned artificiality and biological dependence, and between celluloid fantasy and male heterosexual desire. Defined as a 'progressive iteration' at its most basic level, transduction articulates perfectly the mode of Ruby's seductions through her performance of Hollywood femininities which result in the conversion of one substance into another (semen into artificial life).

Transductions between physical, imaginative and creative domains proliferate as the film plays with the indeterminate status of bioinformatic material. Ruby's role as transducer extends to include the conversion and transmission of a virus from a computational to a biological form. The computer virus downloaded in error into Ruby's body at her conception becomes a biological virus infecting all her male victims who manifest identical physical symptoms: impotence, lack of appetite and the appearance of a barcode on their forehead. In the scene in which Ruby's infected sexual partners have been isolated for

medical observation (under a national security alert as victims of gender terrorism) their uniform appearance in hospital gowns, bagged feet and surgical caps offers a ridiculous vision of their shared status as objects of the medical gaze. In contrast to the individualised colour-coded clones, these men become a uniform undifferentiated mass, shuffling around the room in a group, peering at us directly through the lens of the surveillance camera. They finally express their shared status by huddling together in the shape of an X and giving comic chromosomal form to their collective sexual status as unwitting sperm donors – male victims of an insatiable female appetite. Their place as sexual and reproductive commodities serves as comic punishment for their genital predictability. Ruby's calculated seduction of her male prey for the purposes of extracting their sperm alone (not for money or power in the usual nourish tradition) thus plays the normative masculine heterosexual drive (for which any woman will do) back upon its own conventional instrumentality.

As the physical conductor responsible for the men's collective infection, Ruby the femme fatale brings sexual deception and transduction into a shared frame. This connection deepens if we trace the term transduction back to its etymological base in the term *traduce*. This word has a much older usage than transduce, dating back to 1535 (also 'to lead or bring across') but it has a number of other meanings significant to the current analysis: traduce (from the Latin *traducere* 'to lead across ... ; also to lead along as a spectacle, to bring into disgrace') 'to speak evil of, especially (now always) falsely or maliciously'; 'to defame, malign, vilify, slander, calumniate, misrepresent; to blame, censure'; 'to expose (to contempt); to bring dishonour upon, dishonour, disgrace'; 'to lead astray, mislead, seduce, betray' (*OED* 3). Following this logic, the seductions in *Teknolust* lead the men across the threshold of their desires into a fantasy world of Hollywood re-enactments and expose the reiterative clichés of their predictable sexual drives in so doing. Susceptible to the appearance of a digitally/genetically engineered ideal, the men, whose semen line Rosetta's kitchen cupboard in a row of jars (like notches on the bedpost), labelled by name and mug shot, are victims of their own programmed desires which Ruby manipulates so successfully. Her transductive performatives through which the men are seduced by lines from old Hollywood movies mocks the predictability of their sexual response through random repetition. With each seduction, the conventionality of heterosexuality is reiterated and its own absurd logic exposed.

Thus, Ruby's power as *seducer* depends upon her role as *transducer*. Her imitative deceptions disturb

the predictable continuity across the shifting ground of these transductions (and their transcontextual mobility). If the normativities of the technical element of transduction is defined by the stable configuration that ‘expresses and conserves itself in being transported to a new period’ then these rehearsed seductions reveal these men as ultimately sharing the same sexual response. Ruby’s night time rituals work here as transductive enactments which ridicule the normative repetitions of ‘compulsory heterosexuality’. In performing the conversion from celluloid to ‘real life’, and from biological substance to artificial life, Ruby simultaneously demonstrates the mobility of matter on the one hand, whilst revealing the enduring cliché of ‘transcontextual’ heterosexual masculinity on the other.

One further meaning of traduce (informing transduction) is especially pertinent here: traduce in the sense of ‘to pass on to offspring, or to posterity; to transmit, esp. by generation’ (*OED* 2). In her inadvertent transmission of the computer virus to the electronic clones, Rosetta traduces an informational error into a biological one, whilst transducing one form of materiality to another. When Ruby then continues the viral legacy in her sexual transmission to her multiple male partners, the error is transduced into a human form. This association of transduction with transmission through kinship and generation (as in *traduce*) moves Ruby’s seductions in *Teknolust* in a diachronic frame, since they both result from a transmission by a previous generation (the borrowed lines from 1940s stars) and enable a new generation to thrive (the clones as daughters of Rosetta). In so far as transduction is the ‘quality of an element by which what has been acquired in a technical ensemble expresses and conserves itself in being transported to a new period’ (*OED*), Ruby’s cloned body becomes the transducer of female desire from one artificial mode to another.

These different technical flows of information converge in the body of Ruby as transducer. The absorbent and mediating capacities of her body generate new forms of relatedness between different kinds of materiality. Through these kinship innovations, Ruby’s body condenses biological, electronic and celluloid sexual and reproductive femininities. In so far as Hollywood cinema has been seen as the twentieth century dream machine circulating fantasies of female sexuality that fulfilled the anxious needs of the male psyche^{xi}, then here its function is reversed, as it feeds the genetic needs of the female clones in a new circuit of exchange: the celluloid image becomes sexual data, securing biological substance, to sustain the lives of the clones. In the scenes of downloaded celluloid sampling, film clips of classical Hollywood stars (what Rosetta

calls a 'motivational tape') projected across the sleeping Ruby, her prosthetic body becomes a cinema screen. The projected images appear simultaneously both on her and on the large cinema/computer screen on her bedroom wall, flickering across her body, especially her face, and placing one imitation of life in literal physical contact with another – the sight of them touching is the sign of the successful programming. The images of the film stars are life size or bigger, as these two forms of feminine artifice meet in an intimate ritualised fusion routine.

In the most extended of these recharging scenes, the digitised, highly pixilated film clips of Frank Sinatra and Kim Novak in *The Man with the Golden Arm* are shown first on the cinema-sized computer screen, then projected across the sleeping Ruby, transforming the celluloid image into data and producing its illusion of realness as an imitative technical effect. The cinematic image is literalised here as the artifice of the 1940s Hollywood stars gives visual form to Ruby's own artificial origins. At one point in the scene, the composition of the shot places her body in between those of the two stars in romantic encounter; this diegetic proximity offers a virtual caress between the image of the celluloid stars and the electronic clone. This tongue-in-cheek cyborgian threesome is one of the many sexual triangles in the film which play with cinema's oedipal reputation. Ruby/Swinton's face then turns to meet Molly/Novak's: nose to nose, lips to lips, in an erotic rhyming of multi-layered artificial female forms. When Ruby's face is matched with the close-up shots of Molly's, this proximity anticipates the ventriloquism of the following night, when the former recites the words of the latter to her next victim. The obvious intertextual reference here is to Novak's famous performance as Judy/Madeleine in *Vertigo* (Alfred Hitchcock, 1935), an actress imitating a male fantasy of feminine perfection for which (Jimmy Stewart) naively and predictably falls. The cinematic image moves across Ruby's sleeping body like a projection of her dreams, as the sound of Molly's line, 'you're looking good Frankie, you've got natural rhythm', repeatedly echoes with almost ghostly tones. With the distortion of both sound and image the projected film clip becomes mobile information, moving between the past and the present, like a prosthetic memory haunting Ruby's dreamworld. The psychic and the cinematic are tied together in these multiple projections that transform the apparently previously stable phenomena of celluloid image and biological body into new forms of mutating informational flow.

The sensory connection between the cinematic image of woman and her contemporary cyborg

counterpart enacts what Mackenzie calls their ontogenesis – their *shared becoming* . Both produced by techniques of desire (one screen fantasy, the other cloned automata) their night time touch transduces femininity across their common artificial materialities, uniting them through an intimacy. In this scene, the image is ‘shewn across our gaze’, and indeed is shewn across Ruby’s body to paraphrase Baudrillard. He suggests that ‘[the] computer generated voice isn’t exactly a voice’ and ‘looking at a screen isn’t exactly looking’; and that ‘the tactility here is not the organic sense of touch: it implies an epidermal contiguity of eye and image, the collapse of the aesthetic distance involved in looking’. In our increasing proximity to technology, he argues, ‘we draw ever closer to the surface of the screen: our gaze, as it were, strewn across the image...’ . *Teknolust* plays with precisely such uncanny confusions of organic and inorganic categories through the biologically and culturally reproductive body of the woman whose status has come to signify the long standing problems of such distinctions.

These transmissions of femininity signal the convergence of analogue and digital techniques. In copying these Hollywood heroines with computational accuracy, Ruby performs an exaggerated version of the dynamic between women in cinema audiences and Hollywood stars as their ego-ideals.^{xii} The performances of romantic love by Hollywood’s heroines on screen become a digital resource for an instrumentalised feminine heterosexuality – a means to an end to be sampled, cited and recycled. In Ruby’s imitations of heterosexual seduction in the service of the imitation of life itself, even desire becomes information. Heterosexuality is staged as instrumental copies of a copy for which, as Judith Butler has famously argued, there is no original: ‘as imitations which effectively displace the meaning of the original, they imitate the myth of originality itself’ (1990: 138). A literal dream machine, Hollywood cinema in *Teknolust* becomes the key component in a transductive relay of imitations: its scenarios of romance and seduction are reiterated as generic performatives, whose enactment guarantees the desired effect of the male recipient (with one notable exception). Geneticised heterosexuality here enacts a performative Hollywood citation. As data to secure sperm, Hollywood films are a vital life source for the clones; as an imitation of life on the screen necessary for the imitation of life beyond it, cinema services science. Or rather, the two modes of imitation blend in a networked circuit of exchange of virtual life forms.

In these scenes of celluloid programming, we move into the terrain of transduction, beyond analogy

and beyond the interface. For the parallels, connections or convergences between specific techniques (the cinematic and the genetic) here are only the starting point for a more profound set of interactions of technical transformation. *Teknolust* animates techniques that perform mutability in-between the living and the non-living through which new vitalities move across different material strata (Hayles, 1999)

IV

Ruby's citational relationship to Hollywood cinema is an embodiment of the whole film's imitative borrowings from its more mainstream predecessors which becomes a technique for exploring the new kinship of digital cloning in the film. Put simply, citation becomes kinship. *Teknolust* reconfigures cinematic genealogy through an intertextual pastiche, pushing generic conventionality to absurd limits, and implicating our recognition of and attachment to these famous cinematic gestures and formulas. This sense of critical, yet inevitable, indebtedness to previous iconographic codes recontextualises genre as a way of playing with the changing status of the image more generally.^{xiii} For example, the replay of the duplicity of the femme fatale, suggested by the reflection in the mirror shot in noir, extends the problem of authenticity beyond the woman on the screen into the medium of film itself. If film noir has cast suspicion onto the seductive woman through a mise-en-scène of shadows and oclusions, her conventional surface deception here is rehearsed as a deceit about the status of the image within the film's own diegesis. The triple image of Ruby in the mirror cites the iconography of her predecessors, whilst simultaneously visualising her own duplicated genetically engineered kinship.^{xiv} Duplicity becomes multiplicity as the femme fatale is revealed to be a cloned triplet.

Teknolust's citation of the centrality of 'woman as image' (as idealised spectacle) to the visual pleasures of film extends beyond the genre of noir into the history of Hollywood cinema more generally. In one scene, all three SRAs appearing on screen simultaneously, dressed in identical yellow silk kimonos (the only primary colour not already claimed by the RGB clones), and performing their self-devised dance sequence for Rosetta when she returns from work. Like a number from a Busby Berkley film, the scene uses birds-eye shots to capture the formal arrangement from above, mocking the pleasures of visual symmetry and sequence of the combination of female bodies as formal arrangement through its absurdly improvised

aesthetic. This rather unimpressive chaotic ensemble of random jerky movements by the triplets also rehearses something else: the technical ingenuity of simultaneous screen presence of Swinton as all three clones, bringing genetically engineered reproduction and digital imaging techniques into a shared mutual frame of deceptive ingenuity. Swinton's own reputation as a performance artist, associated with experimental work, contribute to our sense of her suitability as embodiment of both kinds of artifice.

Teknolust thus enacts the imitative desires of the genetic science it narrativises, delighting in using the history and techniques of image cultures as an aesthetic resource for imagining a cloned future. The multiple artistic and cinematic citations offer the pleasures of visual recognition and repetition. The point here is less accuracy (few will have the cultural capital to identify all the intertextual gestures) and more the citational aesthetic that saturates the authentic with the imitative, and real with the virtual. As the spectator is pulled simultaneously into the past (classic Hollywood) and into the future (cloning), the film plays with the sedimented pluralities of inheritance and relatedness. Just as the SRA clones combine living and non-living elements, so the whole film recycles cinematic styles from the past with live animations in the present.^{xv} The proliferation of citations connects the digital to the genetic through the idea of sampling and recombination. As downloaded DNA recombined with computer software, the SRAs embody the melding of biological and digital techniques, performed within a *mise-en-scène* of mimicry which recycles styles, images, texts, spoken lines, objects and gestures. Technological mutability and fluidity blur the boundaries around these categories, connecting art, science and the cinema in the current climate of commodified sampling and recontextualisation.

The shifting significance of this living and non-living ensemble is integral to *Teknolust's* modes of gendered spectatorship which slide seamlessly between live and virtual exchanges in a series of multiple screen relations. Ruby's e-dream portal appears both within the diegesis and exists extra-diegetically in a continuing 'live' form on the internet^{xvi}. In the film, Ruby's portal is a sexual interface offering an intimacy to strangers through which to escape the loneliness of real life in search of a *virtual and vital connection*.^{xvii} Like the heroines of Hollywood before her (whose scenes become her dreams), Ruby appears at her e-portal as a fantasy figure enticing visitors to imaginary places, as her electronic voice-over repeats: 'I can teach you to dream – elope from your remote – evolve with me – let's dream together'. The fantasies at the e-dream portal

share the oneiric mood of Ruby's off-screen vampish seductions scenes. Her incarnations as agent Ruby transform her from the passive absorber of Hollywood romance to the active generator of dreams for lonely late-night surfers. In both cases though, male projections lie at the heart of the mediated encounter. Sandy's attachment to agent Ruby on his laptop is no less affective through its mediated framing – his clandestine connections providing an immediacy absent in the rest of his surreal life. On both cinema and computer screen, Ruby inhabits the illusory space of misrecognition – as human in her 'live' sexual encounters or impersonating an artificial persona in a virtual erotic fantasy as agent Ruby online. Either way, Ruby is always passing.

Similarly, communication between Rosetta and the SRAs depends upon multiple mediations, constructing spectatorship within a relay of screens. Like a kind of virtual panoptic gaze, Rosetta's technological presence in the clone's worlds through her digital circuits allow close monitoring of her offspring. On Rosetta's home computer, each clone has a iconic presence as a spiralling colour-coded double helix through which Rosetta can also access details about their physical well being: information here is the materialisation of the genetically engineered body, matter appears mutable. Rosetta monitors their Y chromosome levels on her laptop 'spermometer'. Inscribing spectatorship in the mobility across different live and virtual interactions, shot sequences cut between human and machinic points of view. In spaces between the living and the non-living of these biogenetic animations, the film thus constructs a transductive subject *looking across the in-between*.

V

Overlaid with excessive conceptual punning, *Teknolust* pushes the idea of the reproducibility of reproduction in on-screen and off-screen artificial life to its associative limits.^{xviii} The transductive circuits of shifting technical communication between living and non-living actors are condensed in the increasing inextricability of human and non-human reproduction and replication. Pulling in the opposite direction from

Baudrillard's bleak predictions about living in the clutches of 'identical reproduction and infinite proliferation'^{xix} with which I began this chapter, *Teknolust* mischievously celebrates precisely what Baudrillard most fears: a loss of the specificity of the singularity of the human and a redundancy of embodied sexual reproduction (see also Chapter 1). The threat of not being able to see difference in sameness for Baudrillard is performed brilliantly in the film by Swinton, whose own reputation as a performer of artifice contributes to the playfulness of the pastiche. Writing of the convergence between two forms of artificial reproduction, the photocopy and the clone, Baudrillard calls cloning 'a process of metastasis that began with industrial products [and] has ended up in the organisation of cells'. For Baudrillard, 'the genetic code, substituting for the father and the mother, becomes the true universal matrix, the individual being now only the cancerous metastasis of his basic formula' resulting in 'the displacement of heterosexual reproduction as the embodiment of difference necessary to the human psyche represents a 'fatal strategy'.

Contra Baudrillard's vision, the bizarre romance between Ruby and Sandy in *Teknolust* delivers authenticity through their shared love of artifice and affective connection through their posthuman sensibilities. Their exchanges enclose them in a transductive circuit of non-human reproduction: Ruby's cyborg body absorbs Hollywood dreams when she sleeps and her web portal transmits e-dreams to surfers like Sandy who can't sleep at night. The film sutures live and virtual in a dialogic, autotelic exchange. Agent Ruby combines digital and genetic artifice when her facial features appear as a pixilated collage with a cellular feel. Like the flow between the live and the celluloid in the screening of Hollywood stars across Ruby's body, the scenes of the e-dream portal place her in the in-between space of screened vitality and live digitality.

Both Ruby and Sandy embody a relationship to artificial reproduction (digital and genetic, mechanical and celluloid) and to the culture of the copy. Their status as outsiders to the conventions of live human interaction place them together in the romance of a shared space of mutual technophilic fascination. Sandy connects with Ruby through their preference for non-human forms of life and an appreciation of the power of artifice: her lack of knowledge of human life matching his own lack of interest/confidence in it. Their low-key romance is sparked off by his fascination with non-human reproduction (the photocopy of her face) and with her artificial vitalities. This unlikely heterosexual couple (her hyper-femininity and his

understated hesitant masculinity) share the place of *conductor* across the human/non-human axis: as the musical director of the photocopy machines (in between botching copy jobs, Sandy conducts the collective rhythmic sounds of the photocopiers as if they were an electronic orchestra); as the transmitter of live electrical currents, her gestures raise and lower the brightness of the lights in his bedroom. In this deadpan bedroom scene, when the electricity between them literally becomes apparent, Sandy conducts Ruby conducting the current in the room, as if it were a musical harmony. Ruby's ability to vary the charge and alternate the current turns her into a 'transductor', defined in relation to electricity as: 'a reactor having a d.c. winding to control the saturation of a core and an a.c. winding whose impedance is thereby changed, so that a small change in direct current produces a large change in alternating current' (*OED 2*). Underscored by the electronic music on the soundtrack that accompanies the variations in current, her unconventionally affective body translates light into a tonal register.

If affect in the film is detached from its usual humanist foundations, it nevertheless returns in just that form in the rooftop scene, where cliché seems allowed to linger in a non-parodic form for a brief moment. Here, the couple exchange meaning-of-life thoughts, looking out over the cityscape with the wind blowing in their hair. Leaving behind the deadpan humour of the rest of the film, they move into a more serious style of conversation and agree that true meaning lies in Art's capacity to move us – in our response to a Man Ray photograph or to a Louis Armstrong number. Together with the jazz club scene in which the artificial white cloned body contrasts with the liveness of black singer Paula West (playing herself) performing on stage, the rooftop scene suggests that human affect is something always located elsewhere. The problem is, perhaps, for the white body to generate affect, or even to recognise its authenticity when it does.

Like a number of films discussed in this book, *Teknolust* plays questions of authenticity in the culture of the copy across the heterosexual/homosexual distinction (see Chapters 2 and 5). Ruby's vampish performance of heterosexual femininity is matched to Olive and Marianne's same-sex, incestuous coupling. As Rosetta says of them: 'Ruby has to seek out intimacy, but Olive and Marianne have each other'. The triangular dynamic of the clone triplets operates across a distinction between Ruby as the singular femme fatale searching for heterosexual prey (as in need of a counterpart, as only half of a gendered whole, one of a pair and so on) and Olive and Marianne as the co-habiting lesbian-continuum cloned couple. The narrative

structure moves Ruby (and Rosetta) increasingly into a human frame through heterosexual fulfilment, whilst the lesbian duo remain firmly with the zone of the artificial in matters sexual and reproductive. As Ruby's femme fatale dutifully transforms sexuality into reproduction, the lesbian duo embodies a visualisation of genetic artifice in their colour-coded intimacies. Ruby's dependent singularity condenses the heteronormative imperative of the clones' design: downloaded from only female DNA they are all condemned to an eternal dependence upon male chromosomal input (especially Rosetta's artificially engineered semen ceases to work). Heterosexual complementarity is inscribed here within the biological trajectory of their survival: *male DNA (via sperm) is their life source*. Ruby's increasingly *human* signs of reproductive success (culminating in the absurd happy family shot of pregnant Ruby mixing brownies) are paralleled by Olive and Marianne's bid to generate an offspring through artificial means. Like a techno-primal scene enactment, they rebel against Rosetta's prohibitions, break into the mainframe, find the secret formula for their own technical origins and use it to engineer a new offspring for themselves. In the process, they discover the computer virus infecting Ruby's victims and, in eradicating it on Rosetta's laptop, simultaneously cure the male patients in hospital of their (hysterical) symptoms. In a miracle healing, the virus is purged across these diverse materialities (significantly without any direct physical contact). Reversing the original heterosexual infection, the lesbian couple produce the ultimate transductive fantasy of prosthetic materialisation from informational to biological bodies.

Human affect is restored to the heterosexual matrix here while lesbian connectivity remains virtual. This alignment could be read through a heteronormative logic which places sameness both at the heart of both cloning and of homoerotic intimacies and queer exchanges. With its imagined proximity to the imitative intention at the heart of genetic replication, sexual sameness could be read here as a visualisation of the doubling operating at an invisible biological level. In some senses, the lesbian couple gives form to their otherwise invisible genetic origins, whilst the single heterosexual vamp is the embodiment of their shared feminine dependency on male chromosomes for survival.

This separation of sexuality from reproduction, and both from the human body, is precisely what Baudrillard cautions will lead us to disaster. It is the biological basis of the union of male and female in *both* the heterosexual act of intercourse *and* in the combined genetic formation of a new human life that, for

Baudrillard, anchors a necessary relation of sexuality and reproduction within the symbolic order. The informationalisation of life itself is what is at stake here: ‘no more mother, no more father: just a matrix’ . To some extent Baudrillard’s formulations share precisely the same ontological and epistemological ground as *Teknolust*, but, for him, the departure from the biological base of heterosexual reproduction transgresses the laws of science and the natural order of human life which requires us to mourn the loss of our evolutionary heritage as the stabilising biological principle behind heterosexual reproduction. In many ways, Baudrillard quite rightly identifies the discursive disturbance posed by the eradication of the sexual function by genetic engineering and cloning in which it is so imbricated in the act of procreation and the consequent development of combined male and female genetic components in the embryo. Untethered from the historical forces of evolutionary progress and biological selection, the traditional category of sexual reproduction is indeed in question. In this sense, a film like *Teknolust* takes Baudrillard’s anxieties and pushes them to their logical conclusion, exploring the genetic imaginary through an investigation of cinematic form.

But perhaps the alignment of the queer couple with artificiality is not necessarily a negative one, since the film celebrates every transduction imaginable in the convergence of digital, informational and genetic techniques (lacking a sufficiently critical stance towards techno-science for some). Whilst the heterosexual vampish seductions contrast with Olive and Marianne’s decidedly domesticated and unerotic relationship, Ruby’s *own* lack of erotic motivation utterly instrumental approach to sex align her with her siblings: in the end, all Ruby really wants to do after obtaining her samples of ejaculate is to cuddle her male victims. Refusing the spectator the pleasure of erotic identification, the film mocks the expectations its title evokes. More *Teknocuddle* than *Teknolust*, the sense of sexual intensity promised by the film’s title is only to be found in the desire *for* the technological it aestheticises.

The sexual ambiguities in the film are further tied into the notion of artifice through the figure of ‘Dirty Dick’. Famous for her performance as the transsexual character (Joanne) in *Come Back to the Five and Dime Jimmy Dean* (Robert Altman, 1982), Black appears here as a private detective investigating gender terrorism. A worldly and intuitive (trans)gender consultant, Dirty Dick echoes the cyborgian imitations of the SRA’s with her own multiple imitative embodiments, secret past and queer origin story. A woman performing a m-f transsexual, Black condenses multiple masquerades. The private detective with a nose for

the truth about people, she reading the affect of others correctly, and it is her intuition and empathy which solves the crime and elicits Rosetta's 'talking cure' confession. As the embodiment of another version of the ac/dc conductor, Dick becomes Ruby's counterpart: the transductor not only of electrical (and erotic) currents, but the conduit for sexual ambiguity and human affect in the age of artifice.

VI

ning constitutes a cultural disturbance that is both highly tangible and yet remains somehow ungraspable, as I have argued throughout this book. *Teknolust* takes the issue of our affective response to cloning (how and why we feel so disturbed by its prospect) and transposes it into a creative rethinking of what we assume to be the biological ground of the affective. How could affect still be the marker of something distinctively human in a world of biotechnological convergence? I began this chapter with a discussion of how Thacker and Mackenzie argue that the new biotechnologies defy previous notions of interface, and of the separability of body and machine, the former exploring the simultaneous desire for immediacy and hypermediation, the latter positing the indeterminacy of multiple transductions. Throughout this chapter, I have relied upon both these challenges to consider how *Teknolust* gives cinematic life to the invisible gene through a transformed sense of bodily materiality. The converging disturbances posed to the reproductive body by cloning and digital image are visualised here through the imitative potentialities performed by both science and the cinema.

the transductions of *Teknolust*, the electronic clones embody both computer and genetic codes in ways which facilitate their movement across the in-between. The informationalised bodies articulate a fantasy of flow and mobility across human and non-human materialities. Moving beyond the interface into the terrain of transduction where the biological body has been transformed by the culture of the copy, *Teknolust* animates techniques which perform mutability in-between the living and the non-living through the movement of new vitalities move across different material strata.

If, as Beth Coleman has put it, multi-media art concerns an aesthetic of the generative, then perhaps

Teknolust enacts the desire for immediacy in the circuits of artificial exchange and biomediation. But if it does so, it imagines the immediacy of becoming, the *immediacy of the generative*. In so doing, the film rehearses the current ‘desire for affect’ (Angerer), the desire to perform the immediacy of the body, to make it literal and legible through genetic manipulation. In offering an imaginative reconfiguration of the genetically engineered body’s vitalities, the film posits an affective relation firmly within the technological domain and yet plays with our desire for its continued authenticity. No longer the property of the embodied subject, no longer the register which reminds us we are alive, no longer that which distinguishes us from artificiality (be it robot, cyborg or clone), the affective domain, as the final frontier of technological replication here renders the body immediate through geneticisation, that most organic of media which disavows its technical origins even as it performs them.

- i See Cubitt , Willeman , and Manovich .
- ii The controversial ‘affective turn’ is widely debated across the humanities and social sciences: see Brennan , Ahmed , Hemmings , Buchanan and Colebrook (eds.) , and Braidotti . Angerer’s book (the title of which translates as *The Desire for Affect*) is currently only available in German.
- iii See **Dyer 2006** for a discussion of pastiche in the cinema.
- iv For critiques of the shared desires of science and the cinema, see in particular, **Bruno (1992) and Shohat (1992). (camera obscura)**
- v Discovered in 1799, the Rosetta Stone assisted in understanding many previously indecipherable examples of hieroglyphic writing through the comparative translations of two different languages dating back to the Ptolemaic era.
- vi As Marsha Kinder points out, the transsexual writer and activist, Allucquère Rosanne Stone (aka Sandy Stone) is invoked in the film in the names (Sandy, Rosetta Stone) and in the ‘film’s’ thematics – Rosetta’s multiple identities and Ruby’s vampiric sexuality’ .
- vii See for example, Doane , Kaplan , Mulvey , and Hart .
- viii For a fuller discussion of the masquerade debates, see Chapter 4 and see especially Doane .
- ix The director suggests on the DVD that the silk kimonos were selected for the practical convenience of quick changes between four characters for Tilda Swinton. Practicalities notwithstanding, the effect is one of easternisation.
- x For example, in relation to acoustic measurement, it is the instrument which must transduce the input signals: ‘the dynamic range of a microphone is the range of levels of input signals which can usefully be transduced by the instrument’; in neuroscience, light must be transduced into a neural message: ‘Rhodopsin, a visual pigment found in vertebrate retinal rods, transduces light into a neural message’ (*OED* 1). In a 1977 usage ‘carbon granules ... do their delicate work of transducing sound waves into varying electric currents’; and in microbiology (from the 1950s onwards), transduction means ‘the transfer of genetic material from one cell to another by a virus or virus-like particle’ (*OED* 3). In the first, the microphone must translate the message; in the second, the rods must transform the light and in the third, the genetic material is constant but is transported from one site to another; in the fourth, the transducer, the variation is constant but appears in another form.
- xi See Kaplan , Kuhn , Modleski , Mulvey , and Thornham .
- xii See Dyer , Gledhill , and Moseley .
- xiii For example, *Chinatown* (Roman Polanski, 1974) is cited at two different points in the film: first, when Marinne is talking about the complexity of her relationship to Rosetta and mockingly slaps her own face from one side to the other as she says ‘she’s my mother, my sister, my mother, my sister’ (quoting Faye Dunaway); and secondly, when a roaming band aid (first on his nose, then on his chin and then on his cheek) inexplicably appears on the investigator’s face (referencing the one on Jack Nicholson’s face).
- xiv See Franklin and Mackinnon and Butler .
- xv The intertextual and citational aesthetic of the film extends beyond the cinema into contemporary art practice and beyond (not surprisingly, given that most of the director’s work has not been in film but in new media art). There is an extensive set of borrowings from popular culture, art, literature and politics. For example, Eduardo Kac’s green rabbit (Alba) – one of the icons of scientific and artistic

collaboration known as GenArt – appears in the laboratory scene behind the two scientists who are debating the ethics of genetic engineering in their laboratory; and the Edward Hopper style bar scene where we witness Ruby’s seduction techniques for the second time transforms artistic style into mise-en-scène (this connection is played on further when the investigator of bioterrorism has the same surname as the artist).

xvi See: www.agentruby.com.

xvii Claudia Springer first used the term ‘sexual interface’. See Springer .

xviii See Franklin and Ragoné (1998) and Roof (1996)

xix This piece was originally published in a slightly different form as ‘The Hell of the Same’ in Baudrillard .