

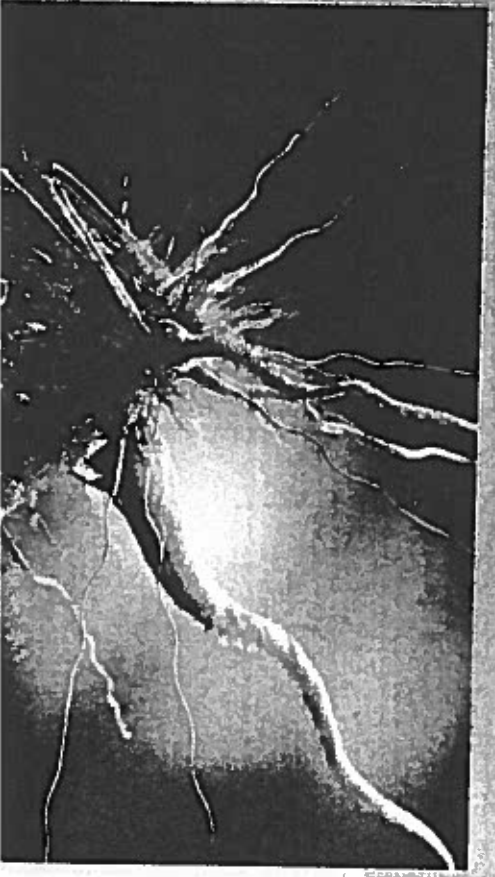
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Media art and science are intricately interlinked in contemporary culture. This book analyses the 'scientific imaginary' that is the profound effects of science upon the imagination, and of the imagination in and upon science. As scientific developments in genetics, information technology and cybernetics open up new possibilities of intervention in human lives, cultural theorists have re-examined the notion of the 'posthuman'. The Scientific Imaginary in Media Art analyses figurations of the 'posthuman' in history and philosophy as well as in its utopian and dystopian forms in art and popular culture. The authors thus address the blurring boundaries between art and science in diverse media like science fiction film, futurist art, video art, and the new phenomenon of 'bio-art'. In their evaluations of the scientific imaginary in visual culture, the authors engage critically with scientific and technological concerns.

Anneke Smelik (ed.)

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Anneke Smelik (ed.)  
**The Scientific Imaginary in Visual Culture**



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## Chapter 4: The Posthuman Predicament

### Introduction

In order to sketch a definition of the posthuman, a number of critical parameters need to be established at the outset. The posthuman predicament, not unlike other illustrious examples of 'post' notions, implies both a chronological and a conceptual aspect. Thus a posthuman turn can only come after and build upon the legacy of the critical insights and the theoretical problems initiated by the postmodern and poststructuralist generations throughout the 1970s and 1980s. This basic sense of chronological continuity is necessary in order to establish some of the defining features of posthuman thought. It is not, however, sufficient in itself. In this essay I want to argue that one of the driving forces of the posthuman turn is precisely a conceptual revision of some of the core features of poststructuralist thought. Whereas poststructuralism was based on a linguistic frame of reference and on symbolic mediation – especially in the work of Lacan and Derrida – posthuman thought returns to the materiality of the body and the primacy of life itself. By implication, issues related to identity and identitarian politics are replaced by a new emphasis on impersonal and even a-personal interconnections and networks of relations.

This shift of perspective is relevant to the theme of this volume in so far as it relocates science and technology in the centre of the philosophical discussions about subjectivity. The main reason for this fundamental relocation is the challenges that have been thrown towards received notions of what constitutes the basic unit of reference for 'the human'. Whether we approach this issue from the angle of the contemporary biogenetic and information technology revolution, or whether we take the line of human rights and the destitute masses engendered by globalization, the posthuman turn forces upon us a reconsideration of the human itself.

As a result, whereas postmodern cultural critique and poststructuralist theory took their clues from and set their orientation on the

set by science and technology studies. Posthuman theory differs, however, from science and technology studies of the previous generation in engaging fully with the question of the subject, contrary to the anti-subjectivity stance taken for example by Latour's *Actors Network Theory* (2005). Subjectivity matters all the more in the light of the ethical and political issues raised by the power differentials and structural inequalities of our technologically mediated globalized world. In this respect, posthuman theory is less anti-foundational than its predecessors and introduces a strong ontological element.

Yet, the prefix 'post' is not a normative injunction and even less so in the case of the posthuman: it does not establish new targets, norms or desiderata. As an analytical tool, the posthuman turn is an attempt to account for the swift transformations of our historical conditions. As an inspirational concept, it invites us to stretch the boundaries of critical thought at a time of great transformations of the human within and without the individual, bounded self. Today more than ever, the 'life' we inhabit escapes the control of the single self, just as we – as a scientific culture – have managed to increase our cognitive mastery over the biogenetic codes of living matter. This is the paradox I will address in the second half of my essay, but first I will sketch the philosophical background of the posthuman turn, starting from a critique of the classical view of the human in humanism and moving to a new, post-anthropomorphic, view of the posthuman. Central to those discussions is the self–other relationship: who is the other of the human; and who is the other of the posthuman?

### The Anti-Humanist Legacy of Poststructuralism

The term posthuman indicates that it has a different view than before on what constitutes the human, which means that it has undermined the humanistic view of the human subject. It is mostly the poststructuralist generation that bequeathed upon us incisive critiques of the liberal individualist vision of the humanist subject. This critique developed into a twofold project: a) attacking the basic tenets of classical humanism and b) targeting the residual humanism of allegedly radical theories such as Marxism and psychoanalysis.

In the first case poststructuralism criticized classical humanism for its vision of the subject as coinciding with rationality, universal moral agency, and self-regulating consciousness. These qualities and prerogatives came under critical scrutiny because of their exclusionary social applications and discriminatory implications. Thus, according to poststructuralist thinkers like Foucault and Irigaray, the humanist subject defines himself both by appropriating these qualities as his own entitlement, and by excluding a significant proportion of 'others' from gaining access to them. Projecting upon others pejorative differ-

ence or negative otherness is consequently standard practice for the humanist subject: women, natives, machines, animals, and the earth are constructed as others who are necessarily excluded from the status of subject. The critical epistemologies since the 1970s single out the regulatory violence that is implicit in this hegemonic vision of the subject (Foucault 1966), as well as his phallogocentrism (Lacan 1998), his Eurocentric bias (Said 1978; Spivak 1999) and his virulent patriarchal heterosexism (Irigaray 1974; Writting 1992).

This takes us to the second aspect of the anti-humanist position: the charge that seemingly radical philosophies of the subject, such as Marxism and psychoanalysis – Marx and Freud revisited by Althusser and Lacan – continue to be related to humanism, albeit it by negation. They rely on a dialectical model for the constitution of the subject and hence also for the self–other relation, for which traditionally the three main embodiments of otherness are gender, race and nature. Again, Foucault's work (1975) on the links between reason, rationality and power and governmentality is essential to this debate. Poststructuralist philosophy produces a socially aware and politically infused re-jection of humanism, which connects the practice of reason to the sovereign rule of dominant powers.

Poststructuralist anti-humanism, in a variety of forms that range from feminist theories to postcolonial theory, targets the implicit assumptions about the human that structure so much allegedly radical discourse. The tactics are as varied as the alternatives they propose: the feminists expose the androcentric, phallogocentric aspects of this notion of the human, arguing that it collapses masculinity with a falsely universal definition of 'Man' as the measure of all things (Lloyd 1985; Harding 1986; Griffin and Braidotti 2002). This image inflates the masculinised human and makes him coincide with a vision of rational self-reflexivity that is best expressed in the language and the practice of science and scientific reason. This standard vision of the human had been posited in a universal mode as Man, but this pseudo-universal has been widely criticized precisely because of its partiality (Fox Keller 1995). Universal Man, in fact, can be disclosed as the masculine, white, urbanized, speaking a standard language, heterosexually inscribed in a reproductive unit and a full citizen of a recognized polity (Deleuze and Guattari 1980). Anti-racism, postcolonial and race studies move in the same direction, exposing the white supremacist assumptions of the humanist idea of 'the human' (Hill Collins 1991; Gilroy 2000; Ware 1992). They challenge this profoundly Eurocentric vision of the subject and the virulent forms of ignorance of others that it engenders.

The poststructuralist critique of the human subject thus brings with it a new paradox: in repudiating the classical view of the human subject, it opened up more radical views that undermine even further the humanist stance. Under the cover of a master theory of historical materialism, or with the psychoanalytic

theorization of the unconscious, the idea of the subject continued to be subjected to the regulating powers of universal reason. This assumes a unitary faculty of judgment, a hegemonic use of rationality, and the notion that the subject of knowledge is somehow in charge of his own (the gender is no coincidence) and of world history. This is then still a hegemonic view of the human subject, which needs to be destabilized by philosophical anti-humanism as it is developed in feminist, postcolonial and anti-racist theory. They free it from such universalizing postures by bringing to the surface the hidden power relations and the fantasies that sustain it.

### From Anti-Humanism to Post-anthropocentrism

No sooner was this radical agenda partially acknowledged and discussed inside and outside the academic world throughout the 1980s, that a second and even more devastating attack on the notion of the human emerged through the compounded impact of globalisation and its technology-driven forms of mediation. Central to the dislocations induced by globalised culture is the convergence between different and previously differentiated branches of technology. Biotechnologies and genetic engineering on the one hand and information and communication technologies on the other are equally active in producing the spectacular effects of contemporary technological transformations. The biogenetic structure of contemporary capitalism profits from the control and the commodification of all that lives: the capital is the genetic code itself. This means that all species are implicated in advanced genetic engineering for the sake of research, development and profit.

The political economy of bio-genetic exploitation causes a phenomenon also known as 'biopiracy' (Shiva 1997). The distinction between the human and other species is erased when it comes to profiting from them: cells, seeds, plants, animals and bacteria fit into this logic of insatiable consumption of life itself. Thus, the categorical distinctions between animals, vegetables and humans collapse, resulting in a generic displacement of the centrality of the human (Haraway 2003). A post-anthropocentric shift takes place that encompasses not only the humans' relation to other species, but also the sustainability of our existence as a human species on this planet as a whole. The self-other relationship therefore radically changes, as the other now encompasses the earth or 'life itself' (Rose 2001). The emergence of the earth as a political agent opens up a planetary level in contemporary cultural geopolitics (Guttari 1992; Haraway 1997; Spivak 2003).

Advanced capitalism produces a global posthuman condition – in the sense of post-anthropocentrism – because it is a system that actively produces and cir-

culates hybridity and transversal connections. These erase the qualitative lines of demarcation not only among categories such as male/female, black/white, human/animal, dead/alive, centre/margin, etc., but also within each one of them (Braidotti 2006). Postmodern critiques of representation and poststructuralist analyses of power as discourse had previously argued that advanced capitalism is a 'difference engine', that is to say a multiplier of differences, which are then packaged and marketed under the labels of cultural and social pluralism. The posthuman turn changes the scale of the problem by arguing that globalisation produces pluralism in the form of a multiplicity of centres in a world of scattered hegemonies (Kaplan and Grewal 1994). These proliferations are merely quantitative and hence they hardly change the structure of the power relations. The impact of globalised technological mediation is such that it triggers a ruthless consumption of 'otherness' in contemporary social and cultural practices. From fusion cooking to world music, the consumption of differences is a dominant contemporary cultural practice. In her analysis of the new organic food industry for example, Jackie Stacey (2000) argues that we literally eat the global economy, while Paul Gilroy (2000) reminds us that we also wear it, listen to it and watch it on our many screens, on a daily basis.

In this post-anthropocentric world, the human has been subsumed into global networks of control and commodification which have taken 'Life' and living matter as target. Science and technology, far from being tools of human emancipation and progress, are the leading forces behind this massive overturn of the basic tenets of both humanism and anthropocentric world views. It is no wonder then that we are confronted by a constant state of crisis, such as the crisis of human rights, of human values, bioethics, the environment and sustainability. As a matter of fact, the generic figure of the human itself is in trouble. Donna Haraway puts it as follows:

Our authenticity is warranted by a database for the human genome. The molecular database is held in an informational database as legally branded intellectual property in a national laboratory with the mandate to make the text publicly available for the progress of science and the advancement of industry. This is Man the taxonomic type become Man the brand (1997, 74).

That is to say that the transcendental structure of the Human and all the epistemic and cognitive privileges it entails, have been replaced by a rather utilitarian and instrumental approach to the genetic material provided by the embodied human subject.

Brian Massumi refers to this phenomenon as 'Ex-Man': "a genetic matrix embedded in the materiality of the human" (1998, 60). The Human has thus lost its integrity and has come to stand for the generative vulnerability of human

matter. This loss of metaphysical privilege by the human results on the one hand in a sort of ontological insecurity and nostalgia for the lost sovereign position and on the other in a colossal hybridisation with other species. These effects can be seen as two faces of the same coin: a sort of "anthropological exodus" from the dominant configurations of the human we have inherited both from classical humanism and the residual humanism of Marxism and psychoanalysis that I discussed above (Hardt and Negri 2000, 215). It is interesting to note that post-anthropocentrism is especially thriving in popular culture, propelled by the postmodern gothic, science fiction, horror and other genres that fuel what I have called the 'techno-leratological' imaginary of our societies (Braidotti 2002, see also the chapters of Merzagora and Smelk in this volume).

In surveying the posthuman predicament of today we can see that it does not function in a linear manner, but that it is rather web-like, scattered and polycentred. The notion of the posthuman is sustained by internally contradictory processes, the effects of which are differentiated geopolitically and along gender and ethnicity lines, to name only the main ones. This creates a few methodological difficulties for the social and cultural critic, because it translates into a heteroglossia of data, rendering both classical and modernist social theories inadequate to cope with the complexities of contemporary society. The paths of transformation engendered by the biogenetic, non-anthropocentric structure of advanced capitalism are neither straight nor predictable. They rather compose a zigzagging line of internally contradictory options. In my view, non-linearity is a major tool to develop cartographies of power that can account for the paradoxes and contradictions of the era of globalisation, without taking shortcuts through its complexities. In the following section I will explore the ethical path of understanding the self-other relationship in the posthuman predicament differently: how can we understand the human when its body is simultaneously caught in the spinning machine of multiple differences and has become a disposable commodity in late capitalism? And how can the human, or rather posthuman, still be an agent for political and ethical transformation?

### The Posthuman Politics of 'Life'

In the second half of this essay I will explore the ethical and political consequences of the posthuman turn, in a perspective that I call 'new materialism' or 'non-essentialist vitalism'. Let me start by stressing that the posthuman condition clearly displays inhumane features in that it introduces ruthless power relations. Globalisation encompasses many dire aspects, such as the increase in poverty, especially among women, the disparity in access to the new tech-

technology may have increased health and produced cyborgs and cyborg-like bodies, there are also renewed forms of vulnerability for the human body. For example, epidemics have returned in the form of Ebola, TB, and HIV – so much so that health has become a public-policy issue as well as a human rights concern. Depression and burnout are larger phenomena than ever and eating disorders affect over one third of the youth in wealthy countries. Wars and the uprooting of millions of people who turn into stateless asylum seekers are constant features of our social landscape. These issues deserve more space than I can grant them in this article.

Here I want to focus on the management of 'life itself' as a marketable commodity in a post-anthropocentric mode, which has taken centre stage in the political economy of advanced capitalism (Rose 2001). This includes the proliferation of practices, both scientific and social, which go beyond human life and are transversal to species and to generations. A phenomenon like Dolly the sheep is central to this discussion: neither truly animal, nor totally machine, she is the head of a new species without a progenitor (Franklin 2007). Alone of all her kind, she is mother to herself but also the product of a virgin birth. In other words, all time sequences get scrambled in the production of the non-reproduced entity that is Dolly. The mutual interdependence of bodies and technologies creates a new symbiotic relationship between them, which necessitates and encourages a radical critique of anthropocentrism in favour of the recognition of the entanglement of material, biocultural and symbolic forces in the making of both human and non-human subjects.

Contemporary genetics and biotechnologies are central to the end of temporal linearity and to the shift towards posthuman ideas of 'life'. I refer to non-anthropomorphic life as 'Zoe' (Braidotti 2006). In my definition, Zoe is the 'other' of the anthropomorphic subject in its humanistic definition. It signifies the generative vitality of non- or pre-human or animal life and it consequently opens up to a new, materialist, understanding of life, of the human, and of the body. More importantly, it also forces a re-consideration of the interaction between the human and the non-human life. Primary among the non-human are the technologically mediated self-organizing structures of the intelligent machines that mark our era. Consequently, science and technology are endemic to contemporary posthuman reflections on issues such as agency, relations and the structure of the subject.

If we extend this analysis to cover the biogenetic area of research and its multiple technological applications – ranging from stem-cells to genetically modified food and everything in between – we can only conclude that contemporary scientific practices have forced us to touch the bottom of some non-humanity that inhabits the human precisely in the immanence of its bodily materiality. With the genetic revolution we can speak therefore of a generalised

'becoming infra-human' of life as a vital principle of technologically-enhanced, self-organizing matter. The category of 'life' has accordingly cracked under the strain, introducing new degrees of complexity in our understanding of living matter. The advanced and sophisticated level of biogenetic knowledge is the main factor in producing a posthuman turn in the ways we live and think about ourselves. The question now is whether philosophical, cultural and social theory can live up to this posthuman challenge (Haraway 1997; Habermas & Livingstone 1995; Hayles 1999).

Let me explore this query by relating it again to the self-other relationship. We have seen that in classical humanism the other has always functioned as the embodiment of difference that holds up the self in a dialectical relationship. Traditional dialectics tied self and other in an infernal embrace of mutual and resentful dependence, marked by varying degrees of familiarity between the centre and the margins. This intimate and projective relationship is framed by the dominant human masculine habit of taking for granted free access to and the consumption of the bodies of others. In the posthuman predicament of today this mode of relation is being re-set and re-structured. The previously dialectical relationship between self and other has become dislocated and redistributed along a rhizomatic, or multi-layered axis, in contrast to a dualistic axis of opposition. Now that complexity replaces dialectics, it causes the other to lose its metaphysical function of being the binary and specular opposite of the self. By extension, the other ceases to be the privileged term that indexes the European subject's relationship to discursive, social and symbolic power. The posthuman turn in its post-anthropocentric mode encourages us to engage in a radically other relationship with others (Ansell Pearson 1997). The challenge today is therefore how to de-territorialize, or nomadize the self-other interaction, so as to bypass the metaphysics of subjectivity and its corollary, the dialectics of otherness.

As a result, the three main dialectical axes that used to constitute otherness according to the unitary subject of classical humanism – gender, race, nature – have shifted. With it the hierarchical scale of pejorative differences has also lost much – but not all – of its nasty sting. Now that the others are not merely the markers of exclusion or marginality, they have become the sites of powerful and alternative subject positions. The posthuman turn has allowed the other to be a decisive agent for political and ethical transformation (Braidotti 2002). The transformation of the axes of sexualised, racialised and naturalised differences forms intersecting patterns of change. As such, there is a new political economy of otherness which is of great ethical and political relevance to posthuman theory. Paradoxically enough, however, the relocation of otherness along a rhizomatic web of multiple differences seems to leave the century-old forms of

Within the context of the subject of this book on science and technology, I want to focus here on the transposition of non-anthropomorphic or Earth others. The critique of anthropocentric thought poses a number of conceptual, methodological and practical complications. My suggestion is to recast the self-other relationship in terms of 'becoming', a concept that I take from Deleuze and Guattari (1972; 1980) which refers to a constant process of transformation. The key notion here is that, as embodied and embedded entities, we humans are all part of nature, even though philosophy continues to claim transcendental grounds for human consciousness. Posthuman thought contests the arrogance of anthropocentrism and strikes an alliance with the productive force of Zoe – or life in its inhuman aspects. Thus, affinity for Zoe is a good starting point for what may constitute the last act of the critique of dominant subject positions, namely the return of animal, or Earth life in all its potency. The breakdown of species distinction between human and non-human as well as the explosion of Zoe power shift the grounds of the problem of the breakdown of categories along the axis of gender and race.

This recasts the political project of becoming into a planetary or worldwide dimension, the earth being not one element among others, but rather that which brings them all together. One way to come to terms with this challenge, then, is to emphasize the materially grounded and transformative processes of becoming. This is how I understand vitalism in the context of contemporary biogenetic sciences: the potency of multiple, self-organizing organisms, most of which are technologically mediated, from Dolly the sheep to multiple digital avatars, without forgetting genetically modified food, test-tube babies and complex information and communication technology networks. Central to the posthuman turn as I see it is the impact of material vitalism, or vitalist neo-materialism: Zoe-driven practices of non-human life forms.

### The Non-Human as Becoming-Planetary

The materialist and vitalist perspective need not trigger the cognitive and moral panic that often affects humanistic-minded philosophers, Habermas' (2003) anxiety about the future of human nature being a case in point. On the contrary, the technologically mediated vitalist materialism of our times can both support and be strengthened by a non-unitary and post-identitarian vision of the subject. Complexity needs to be written in the inner structure of subjectivity itself, dispelling any residual notion of metaphysical unity so as to come to terms with the generative power of non-human and non-organic entities.

most would expect. For instance, in his critique of the rhetoric of biotechnological vitalism Ansell Pearson (1997) warns us against the pernicious fantasy of a re-naturalized evolution led by biotechnological capitalism. He sees this as one of the master narratives of neo-liberalism and as a serious error in the assessment of our historical condition. The paranoid mode of presenting a totalising techno-future perpetuates the split between biogenetic non-human 'life' and the human. This dichotomous opposition expresses the fear of loss of cognitive mastery by the human subject. The challenge is rather to rethink evolution in a non-deterministic but also a non-anthropocentric manner. Central to this non-essentialist vision of vitalism is the idea of transversal organizations of species and life-forms. These lines of interconnections among disparate organisms – human bodies, technological implants and plants – create a unity that is based on the affinity among different forces. Complexity being the operative word, this affinity is not a synthesis in any totalising sense of the terms. What we get instead is a set of connective disjunctions and productive unfoldings which bring about a recomposition of the matter in question.

In my view, a combination of organic and inorganic material, inherited and acquired, embodied and technological, lies at the heart of a posthuman system that works by flows, movements and self-organizing entities. This 'matter' is thus a biogenetic living entity. The hybrid structure of this matter provides a combination of vitalism and machinism, resulting in a redefinition of each term. At the heart of contemporary computational culture we shall thus find a high-tech brand of neo-materialism, which we also know as 'intelligent machines'. This intelligence however, is not only cognitive, but mostly generative, in the sense that it is a form of complex self-organisation. Katherine Hayles' (1999) work on embodiment is part of this movement, which she aptly calls the post-human life of codes and computing systems. How to reconcile bodily spaces and experiences with the possibilities afforded by the new computational technologies is at the heart of what Hayles describes as 'humanistic informatics'.

The new task for the philosopher or cultural critic is then to redefine the middle ground ('milieu') between entities that were previously defined by binary opposition: organic/inorganic; born or reproduced versus made or produced; biology and technology. The new middle terrain assumes a flat transversal kind of thinking, as opposed to hierarchical ontology. This is also known as 'biocentered egalitarianism' (Ansell Pearson, 1997), in that it posits the necessity of transversal, trans-species interconnections. By re-thinking the middle terms of the relation, posthuman theory forces a re-appraisal of relationality itself. Liberated from the hegemony of anthropocentrism, critical posthuman theory redefines not only the terms of former oppositions and hence the meaning of the human, but also the terms of their interaction.

paradox I outlined in the introduction, namely the extent to which scholarship on 'life' bypasses knowledge about the superiority or even the specificity of the human. 'Life' is more than the single life of a defined and bounded self. Therefore the basic unit of reference for the function of subject of knowledge is no longer the defined and actualised human self. I want to argue instead that a transversal vision of subjectivity is best suited to the challenges of a post-anthropocentric vision of the subject. In the following I will give some examples of these inter-related redefinitions and their productive contributions to our understanding of the relationship to contemporary science.

### Chaosmosis

In borrowing the neologism of 'chaosmosis' from Joyce's *Ulysses*, Deleuze and Guattari (1980) defend a transversal, posthuman vision of the subject as a self-organising and relational entity. The concept of chaosmosis allows us to understand the vital autonomy of material evolution in terms of the specific practices of self-organizing machinic production.

Chaosmosis can be defined as the radical immanence of life as a complex system, which bridges the divide between production and reproduction, machinic and generative powers, technology and biology. Concepts like 'chaosmosis', 'radical immanence' or 'becoming-Zoe', occupy the middle ground between old and classical dichotomies like organic and inorganic matter, and hence they add subtlety to the definition of life. Posthuman theory consequently allows for a complex and hence more adequate theoretical but also practical understanding of the topology and the ethology of forces involved in the evolution of life.

An other key term, adapted from Maturana and Varela (1972) is 'autopoiesis', or process-oriented ontology. Machinic autopoiesis means that the biogenetic recomposition of life forces and productive machinic processes constitute living matter by a variety of means, not all of which are simply inherited from our own species. Therefore the reproduction of life is a site of becoming, or the threshold to many possible worlds. In my own work I have referred to this processual ontology as 'nomadic becoming', with special emphasis on the productive, gratuitous and non-profit force of the process (Braidotti 1994). Humans need to review their schemes of representation of both the machinic processes and the idea of evolution by updating their appreciation of contemporary biogenetic sciences.

The assumption is that, as stated before, the subject does not coincide with the rational consciousness of a cinema individual. But what about the subject of the

sense of life, that is to say to emit meaningful utterances within a signifying system, nor is it about discipline and conformation to ideal models of behaviour. The subject merely aims at self-actualisation, which means achieving singularity. An important new factor enters philosophy here, as Deleuze and Guattari were inspired by Spinoza, and that is: affect. The subject is an enduring, relational entity capable of affecting and of being affected by a multiplicity of others. As subject-in-becoming, s/he is a vector of subjectivation. Subjectivity for Guattari (2000) is 'pathetic' in the sense of empathic, affective, multiple, mediated and complex.

To understand such a transversal view of the posthuman subject we need to approach it through his/her three fundamental ecologies: that of the environment, of the socius, and of the psyche (Guattari 2000). More importantly, we need to create transversal lines through all three of them. It is crucial to see the interconnections among the greenhouse effect, the status of women, racism and xenophobia, and frantic consumerism. We must not stop at any fragmented portions of these realities, but rather trace transversal interconnections among them. In the culture of advanced capitalism, this complexity is misread and reduced to a logic of discourse where capital becomes the referent for labour and 'Being' becomes the great principle of reduction of the ontological multiplicity of transversal life.

Guattari argues that a qualitative step forward is necessary if we want subjectivity to escape the regime of narcissism and paranoia that is induced by advanced capitalism, through social processes of self-withdrawal, infantilisation through media information overload, and the fear or denial of alterity. A virtual ecology of posthuman transformations is necessary to engender the conditions for the creation and the development of unprecedented formations of subjectivity. Another term for it is 'ecosophy', which refers to the kind of thought that aims at crossing transversally the multiple layers of the subject, from interiority to exteriority, and everything in between. These flows of transversal connections are also found in Deleuze's notion of becoming, which can be understood as a process of differentiation and singularisation.

Guattari's scheme of the three ecologies provides an answer to the question of how to conceptualise the transversal interconnections among the lines of definition of different species. Guattari's answer involves a mixed semiotics combining the virtual (indeterminate) and the actual (determinate) domains of life. The non-semiotic codes, like the DNA or any genetic material, intersect with semiotic processes in a complex transversal assemblage of affects, and embodied practices and experiences. Parisi (2004) draws a convincing parallel between chaosmosis as autopoietic becoming and the new epistemology of Margulis (1995). She introduces here the concept of 'endosymbiosis', which like autopoiesis, indicates a creative form of evolution. The virtuality of becoming...

an ecology of differentiation, which means that the genetic material is exposed to processes of non-linear becoming. This questions any ontological foundation for difference while avoiding the binary oppositions of social constructivism. The project is sustained by the assumption of Spinozist monism, which defines nature/culture as a continuum that evolves through variations or differentiations.

The punch line of this dense argument is twofold. The first point is that difference emerges within a continuum of creative evolution as pure production of processes of becoming. The transitions are internal to the constant process of formation and transformation, which are intensive or affective variations that produce semiotic and a-semiotic practices (Massumi 2002). In Deleuze and Guattari's (1980) work these variations of intensity in space-time are also expressed in the concept of the Body-without-Organs, with which some readers may be familiar. The second point is that priority is given to the *relation* over the terms. Parisi expresses this in Guattari's language as 'schizogenesis', by which she refers to the affective, relational being of the middle ground, the interconnection, the 'milieu'. The emphasis on the micropolitics of these relations results in a posthumanist ethics that traces transversal connections among material and symbolic, concrete and discursive lines or forces.

Transversality therefore actualises bio-centred egalitarianism as both an ethics and also as a method. This helps us to account for both material and immaterial forms of labour subjectivity in the age of late high-tech biocapitalism, which trades in all that lives and breeds. An ethics that is based on the primacy of the relation and on interdependence, however, values Zoe in itself. Deleuze and Guattari's transversal becomings and chaosmosis offer a relevant alternative to the more conventional discourses about the tensions between technology and biology. By focussing firmly on the middle ground of these relations, Deleuze and Guattari propose an eco-philosophical answer to the paradoxes of our biogenetic era.

### **Becoming-world, or social sustainability**

In the last section I will further explore this eco-philosophical aspect, by focussing on the notion of 'becoming-world'. The becoming-world means to merge with the environment, or the Earth, as a multiple form of becoming, which is not based on the mere overcoming of a binary opposition (like the becoming-woman, that undoes phallogentrism; or the becoming-nomad, that undoes Eurocentrism). According to Deleuze and Guattari (1972; 1980), it is the only form of becoming which is qualitatively at a distance from the standard or norm...



power to de-territorialize the Majority and its main categories and classifications. Becoming-world is then a qualitative shift that is immanent to all the others, concerning the movement of the totality of all that lives, of that great animal/machine that is the cosmos itself and the planet as a whole. In this sense, the becoming-world traces a general eco-philosophy of becoming that produces positive interconnections on a planetary scale. The process of becoming-world involves multiple ecologies of belonging.

The question is how we can achieve such a transformation: how to recompose some sense of pan-humanity amidst the scattered hegemonies and power differentials of globalisation? How can we think accurately about the complex singularity of the subject while taking into account the biogenetic materiality of our planetary interconnections? The phrase 'we are in this together' accurately sums up the global dimension of the problems we are facing when we take the power relations of bio-capitalism as the defining feature of our historicity.

I argued above that one of the consequences of the posthuman predicament is a bio-egalitarian turn, which has led to a new concern for an ethics that does not assume the centrality of the anthropocentric subject. This stresses the limitations of liberal individualism as a point of reference for the discussion of practices and discourses about life or Zoe. An emphasis on the unitary subject of possessive individualism is of hindrance, rather than assistance, in addressing the complexities of our posthuman condition. In this respect, I feel quite strongly that mainstream moral philosophy and conservative neo-liberalism should be targeted for two major fallacies: their deep-seated anthropocentrism and pretentious universalism. As I argued above, the anthropocentrism and universalism of the humanist Eurocentric subject is deflated in the light of race, post-colonial and feminist critiques of its partiality, self-serving sense of entitlement and historical decline. Here, the posthumanism of social and cultural theorists working within the West in a critical perspective can be set alongside the many contemporary forms of non-Western neo-humanism. In other words, post-anthropocentric or zoe-centred posthumanism on the one hand, and anti-western neo-humanism on the other can engage in productive axes of dialogue. The point of this alliance is not to flatten out all differences of location, but rather to align them along the same axis, so as to facilitate the impact of their respective political and affective forces.

In my terms, posthuman theory is the expression of anti-individualistic nomadic politics. As such it is a critique of the centre from the centre. Here I can refer back to the earlier mentioned multiplicity of centres in a world of scattered hegemonies (Kaplan and Grewal 1994). To this end, the reference or the return to a universal is neither inevitable nor necessary. On the contrary, posthuman thought argues for a more specific and grounded sense of singular subjectivities that are collectively bound and outward oriented. If it is indeed the case that 'we

are in this together', 'we' need a redefinition of the subject position. More specifically, we need to revisit the notion of 'pan-humanity' from within a non-unitary and non-anthropomorphic understanding of the subject. This is what I call an embodied and embedded subject (Braidotti 2006). Such a subject is always transversally related to its multiple others.

An important reason for needing a new grounded, embodied and embedded vision of the subject as a transversal and relational entity, has to do with the second half of that crucial sentence: 'we' are in *this* together. What *this* refers to is a cluster of interconnected problems that touches the structure of subjectivity and the very possibility of the future as a sustainable option. By realising that 'we' are in *this* together, we get the sense of a collectively bound subject that is intimately connected to non-human agents, from our genetic neighbours the animals, to the earth and the biosphere as a whole. 'We', therefore, is not an anthropocentric construct, but an eco-philosophical marker of belonging to a commonly shared territory or habitat. In other words, 'we' are part of this immanent world of ours.

How to do justice to this relatively simple yet highly problematic reality requires a shift of ethical perspective. As Haraway suggests, we need to work towards "a new techno-scientific democracy" with new norms of ethical interaction based on bio-centred egalitarianism and not on species hierarchy (1997, 95). Because of the kind of complexities 'we' are facing, we need to review methodologies in social and cultural theory that have tended to underplay the role of biological or genetic factors. This calls for a new set of alliances of a more transversal and trans-disciplinary nature, with different communities of scholars, thinkers and activists. I propose the idea of 'social sustainability' as the rallying point for the arts, contemporary culture and science to strike a new alliance (Braidotti 2006).

In my view then, 'becoming-world' is related to social sustainability. What social sustainability stands for is a grounding of the subject in a materially embedded sense of responsibility and ethical accountability for the technologically mediated environments *s/he* inhabits. It is a concept that helps us rethink the very possibility of the future as both duration or continuity and extinction or discontinuity. Posthuman ethics rests on the sustainable shifts or changes undergone by nomadic subjects in their active resistance against being subsumed in the commodification of their own biodiversity. Their time frame is always the future anterior, that is to say a linkage across present and past, in the act of constructing and actualising possible futures.

## Conclusion

In this chapter I have provided some theoretical parameters to define the posthuman predicament. Building on the anti-humanist legacy of the post-structuralist generation, I have examined the post-anthropocentric turn in social and cultural theory. I have argued that the changing relationship to biogenetic sciences and technologically mediated culture lies at the core of the posthuman condition. This forces upon us the need to reconsider some leading concepts of subjectivity and self-other relations, in ways that respect the complexity of our scientific knowledge of the basic unit of the 'human'. In the second half of the chapter I have focussed on the ethical implications of these shifts in our understanding of the subject as a relational entity, embodied and embedded in the world, and related to multiple others.

As a conclusion, I would enlist, rather than dismiss, the contribution that philosophical theories of the posthuman can make to the debates on contemporary science, epistemology and the ethics of scientific research. Philosophical investigations of post-anthropocentric subjectivity offer alternative ways of accounting for the embedded and embodied nature of the subject. They are indeed relevant and generous allies in the ongoing efforts to develop an approach to subjectivity worthy of the complexities of our age. One needs at least some subject position, but it need not be either unitary or exclusively anthropocentric. Rather it must be the embodied and embedded site for the political and ethical accountability that we need to understand and sustain a fast-changing, technologically mediated world.

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## Part II: Media