CHAPTER ONE

FRAMING THE BODY: APPROACHES TO MATTER-METAPHOR ENTANGLEMENT(S)

> Postmodern philosophy is beginning to discover the body in the mind, the mind in the animal, the body as the site of cultural inscription, nature as creative other. We need not and should not follow reductionist positions in denying difference, in denying that the psychological or intentional is an irreducible mode or level of discourse different from the physical. But we can conceive mind as more bodily and body as more mindlike, and we can also conceive their relationship in friendlier and more co-operative terms. For subject/object, mind/nature and human/nature dualism, a non-reductive resolution requires both that we reconceive ourselves as more animal and embodied, more 'natural', and that we reconceive nature as more mindlike than in the Cartesian conception. (Plumwood 124)

In these lines, Val Plumwood captures a crucial concern in critical theory by allowing us to revisit the implicit Cartesianism and the epistemological splits which overlay it. This is directed against the legacy of the seventeenth-century philosopher René Descartes (1596-1650). It was Descartes who radicalised the separation between the mind and the body (the mental and the material, consciousness and corporeality, psyche and soma), by privileging rationality/*cogito* as the key determinant of the human. Subsequent critical interventions seek to recover the compromised materiality of the body. Such interventions provide a reference point for the current research that endorses, instead of a unitary understanding of the world, the logic of endless entanglements. As such, this dissertation adopts the entangled body as the key trope for reading selected works of Thomas Pynchon and Don DeLillo.

The thesis looks at the material limits of the body by focussing on its fluidity and plasticity. Before moving on to any further, it is necessary to look at the conceptual frame of the body in cultural theory. Bryan Turner advocates the rise of a "somatic society" in which "our major political and moral problems are expressed through the conduit of the human body" (6). His ideas coincided with the emergence of "body theory" in Sociology and the subsequent rise of "body studies". Turner's thesis invites attention to the body as a vehicle of forces and intensities that cannot be reduced to the biological. To make this

distinction clear, he adopts the term "corporeal" to signify the lived body's domain of experience. The current dissertation's deployment of the term is suggestive of Turner's conceptual framework. His arguments are directed against the textual and discursive framing of the body by way of reorienting the material. Chris Shilling puts this into a perspective as he recognises the body "as a material, physical and biological phenomenon which is irreducible to immediate social processes or classifications" (*Social Theory* 10). The dissertation takes this as a take-off point for investigating the corpus of DeLillo and Pynchon. It also follows up on one of Shilling's later arguments that the body serves "as a location for communal norms which help determine how individuals intervene in their environment" (*Culture* 78). The dissertation simultaneously draws on related works of phenomenology that privileges the felt forms of bodily engagement.

Against the Cartesian view of the mind/body dualism, the tenets of phenomenology suggest that "the body is a thinking body that perceives its environment through lived, felt forms of activity in which the mind and body are viewed as integrated processes" (Blackman 66). Informed by the philosophical formulations of Maurice Merleau-Ponty, phenomenologists view the embodied experience of an individual as central to the notion of "being-in-the-world". Such theories project embodiment not merely in corporeal terms but always in a relational context. This position serves to communicate the idea of interactivity. Rosi Braidotti, whose scholarship we shall subsequently turn to, proposes a dialectic of "becoming" to situate this problematic. As a critical conjecture to Merleau-Ponty's "being-in-the-world," Braidotti extends the idea of becoming by demonstrating that "the subject is dissolved and re-grounded in an eco-philosophy of multiple belongings" (*Transpositions* 41). Such theoretical frameworks radically reconfigure the ways in which we conceptualise the human. Drawing on this perspective, the research situates the body in a network of encounters. It foregrounds a dialectic against the singular and bounded idea of the body by shifting focus to interfaces and contact zones that inscribe corporeal entanglements.

As we begin this inquiry, it is necessary to offer a working definition of the key theoretical trope of this research: 'entanglement'. The term has its origins in Quantum Theory, where it signifies a process of unceasing interactions among particles sharing spatial proximity. Subsequently, the idea has been adapted and explored substantially by scholars in history (See Hamilton 1998; Thomas 2003) anthropology (See Burke 1996; Brown 2003) and sociology (See Hartigan 1999; Sanders 2002), alongside the debates

concerning identity, race, ethnicity, gender and space[1]. In this dissertation, the use of the term corresponds to the critical vocabulary of Karen Barad. Barad, in her complex interleaving of a matter-meaning continuum, holds that:

> To be entangled is not simply to be intertwined with another, as in the joining of separate entities, but to lack an independent, self-contained existence. Existence is not an individual affair. Individuals do not preexist their interactions; rather, individuals emerge through and as part of their entangled intra-relating. Which is not to say that emergence happens once and for all, as an event or as a process that takes place according to some external measure of space and of time, but rather that time and space, like matter and meaning, come into existence, are iteratively reconfigured through each intra-action, thereby making it impossible to differentiate in any absolute sense between creation and renewal, beginning and returning, continuity and discontinuity, here and there, past and future. (*Meeting* ix)

Barad's position articulates the inadequacy of essentialist ontologies. Her work contributes substantially to the feminist technoscience studies and owes much of its critical spirit to the study of things, or what has been called the New Materialist Turn. This "turn" reclaims attention to matter/bodies which has been neglected by Cartesian dualist thought. It demonstrates the relevance of cross-disciplinary efforts that problematise age-old anthropocentric binaries (nature and culture, human and extra/non-human), by affirming convergences and crossovers. This is the first critical trajectory to which this thesis subscribes in formulating a perspective on the body and its intra-relations.

The New Materialist Turn

Judith Butler proposes that "it must be possible to concede and affirm an array of "materialities" that pertain to the body, that which is signified by the domains of biology, anatomy, physiology, hormonal and chemical composition, illness, weight, metabolism, life and death" (66). The statement is crucial, for it anticipates the necessity of a trans-disciplinary engagement to redeem the materiality of the body. Butler's emphasis on the body is directed against the ways in which materiality has been reduced to socially signifying practices. Her ideas highlight the dynamic between bodily interiority and performative exteriority. This is given further weight by the feminist work in science studies. By suggesting the need of a "corporeal materialism", Rosi Braidotti alerts us to

the fact that "the 'body' as theoretical *topos* is an attempt to overcome the classical mind-body dualism of Cartesian origins" ("New Nomadism" 169). Her theorisation of the body as "an interface, a threshold, a field of intersecting material and symbolic forces" (Braidotti, "New Nomadism" 169), anticipates the theoretical vocabulary of Affect Studies. She draws on Deleuze's idea of "rhizomatic thinking" (which we shall turn to in our discussion of affect and affectivity) in order to unpack the significance of bodily materiality in the ecology of the self. Braidotti's adoption of the term "neo-materialism" ("Teratologies" 160) to signify the Deleuzian sense of corporeal crossovers provides a key moment in framing the field of New Materialism.

Braidotti's idea of "a more radical sense of materialism" encourages us to rethink "the embodied structure of human subjectivity after Foucault" ("Teratologies" 158). In Foucauldian thought, the body is interpreted as the "inscribed surface of events (traced by language and dissolved by ideas" (Foucault 148). The references to "language" and "ideas" show that such an act of inscription is projected as a culturally inflected condition. It reduces the inscribed body into a textual metaphor by interweaving its signification with an existing social order. Against such metaphorization, Elizabeth Grosz surmises that the body, instead of operating as a socially symbolic apparatus, serves to structure a convergence between the cultural and the corporeal. Drawing on Deleuze and Guattari's idea of "assemblage," Grosz extends a reconceptualization of the body by rethinking materiality. "Human biology," she argues, "must be *always already cultural*, in order for culture to have any effect on it. It is thus a threshold term between nature and culture, being both natural and cultural" (Grosz, "Notes" 7; emphasis in original). In other words, seeing the body as a "threshold," Grosz aligns her thought[2] with Braidotti's.

Grosz underlines the necessity of such a revaluation by pointing out the ways in which the "association of the mind/body opposition with the opposition between male and female, where man and mind, woman and body, become representationally aligned" (*Volatile* 4). On the one hand, the "body provides a point of mediation between what is perceived as purely internal and accessible only to the subject and what is external and publicly observable" (Grosz, *Volatile* 20). On the other, it provides pointers to rethink "the opposition between the inside and the outside, the private and the public, the self and other, and all the other binary pairs associated with the mind/body opposition" (Grosz, *Volatile* 20-21). This is a crucial point from which the dissertation draws substantial critical corollaries. The idea that "[t]he body is neither—while also being both—the

private or the public, self or other, natural or cultural, psychical or social, instinctive or learned, genetically or environmentally determined" (Grosz, *Volatile* 23), highlights the fluidity and plasticity that cut across taxonomical configurations. This is pushed to extremes in the works of Donna Haraway and Karen Barad. Both these theorists insist on the co-constitutive nature of the human, nonhuman, technological, and natural epistemologies. But before turning to them, it is necessary to look at the critical enterprise of Latour which combines social construction with an understanding of the ontology and agency of the material world. Latour's ideas have an overriding influence on both Haraway and Barad. Much of his early empirical work paved the way for the development of Science and Technology Studies (STS).

In his seminal work *We Have Never Been Modern* (1993), Latour teases out many of the questions that foreground the sociology of science. His call to comprehend the "thingness of the thing" (quoted in Hird, "Feminist" 450) consolidates his position as one of the early advocates in New Materialist thought. Critiquing the modernist predicament and its implicit anthropocentrism, Latour holds that "the human, as we now understand, cannot be grasped and saved unless that other part of itself, the share of things, is restored to it. So long as humanism is constructed through contrast with the object that has been abandoned to epistemology, neither the human nor the nonhuman can be understood" (*Modern* 136). His work highlights the vitality of the material world that has been hitherto rendered insignificant and inert. Latour's plea to think beyond human exceptionalism, set over and against the world of objects, is reflective of a radical relationality and interdependence that predate the conceptual category of posthumanism. This is in close correspondence with the works of Haraway and Barad among others. In *Reassembling the Social: An Introduction to Actor-Network Theory* (2005), Latour elucidates a general framework of actor-network theory (ANT) that asserts agency of the material world. He conceptualises the "social" as "a movement, a displacement, a transformation, a translation, an enrolment" (Latour, *Social* 64–65), across a network of subjects and objects. Such a perspective radically redistributes agency among different orders of human and nonhuman, actors and actants. In a later essay, he addresses the Anthropocene by referring to "a surprising inversion of background and foreground", a moment in which "it is human history that has become frozen and natural history that is taking on a frenetic pace" (Latour, "Agency" 12). Such a statement calls attention to a dissolution of the disciplinary divide between natural and human sciences.

It is imperative that we note how the redistribution of agency in actor-network theory resonates with material engagement theory (MET). In MET, for instance, subjectivity is seen as at once internal/embedded and material/extended. Malafouris sees in the entanglement between human bodies and extra-human matter an "ontological coalition" suggesting "a co-extension of the mental with the physical" (5). This marks a significant point of departure that shows the immediacy of a cognitive/neuroscientific turn. In fact, MET considers a dialectical and recursive alliance with the material world, upholding the contentions that: a) "the symbol cannot exist without the substance, and the material reality of the substance precedes the symbolic role" (Renfrew 25); and b) "objects are bound up in humans in their guises as biological, psychological and social beings, as bio-psycho-social totalities" (Knappett, *Culture* 169). For Carl Knappett, "[a]gency comes to be distributed across a network, inhering in the associations and relationships between entities, rather than in the entities themselves" ("Photographs" 100). He acknowledges Latour's relevance in theorising "a far-flung network of people and artefacts, a social network that may stay in place even after the biological death of the individual" (Knappett, "Photographs" 101). Drawing on this framework, the quantum physicist and feminist scholar Karen Barad extends the idea of "agential realism". Her ideas are based on the Bohrian model that seeks to reevaluate the Newtonian sense of absolutes that dominate much of Western ontology. The fundamental premise of this project is to suggest the inseparability of bodies and materialities. For Barad, "[w]e are not outside observers of the world. Neither are we simply located at particular places in the world; rather, we are part of the world in its ongoing intra-activity" (*Meeting* 184). Intra-action is a keyword in Barad's philosophy, which she describes thus:

> The neologism "intra-action" *signifies the mutual constitution of entangled agencie*s. That is, in contrast to the usual "interaction," which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action. It is important to note that the "distinct" agencies are only distinct in a relational, not an absolute, sense, that is, *agencies are only distinct in relation to their mutual entanglement; they don't exist as individual elements*. (*Meeting* 33; Barad's emphasis)

Given that material bodies, both human and nonhuman, are endlessly enmeshed in a perpetual process of the world's becoming, materiality and discursivity are complexly

combined in the meaning making practices. Barad calls this "material-discursivity," which is pivoted on an "ontoepistemological" framework. The following observation makes this point clear:

> Bodies are not objects with inherent boundaries and properties; they are material-discursive phenomena. "Human" bodies are not inherently different from "nonhuman" ones. What constitutes the human (and the nonhuman) is not a fixed or pregiven notion, but neither is it a free-floating ideality. What is at issue is not some ill-defined process by which human-based linguistic practices (materially supported in some unspecified way) manage to produce substantive bodies or bodily substances, but rather the dynamics of intra-activity in its materiality: material apparatuses produce material phenomena through specific causal intra-actions, where "material" is always already material-discursive—*that is what it means to matter*. Theories that focus exclusively on the materialization of human bodies miss the crucial point that the very practices by which the differential boundaries of the human and the nonhuman are drawn are always already implicated in particular materializations. (*Meeting* 153; Barad's emphasis)

Barad's thesis of the 'ontoepistemic' entanglement resonates with Donna Haraway's conceptualisation of "naturecultures". At a time when informatics had replaced the erstwhile information systems during the Reagan era of American capitalism, Haraway invokes the image of the cyborg to celebrate "transgressed boundaries, potent fusions and dangerous possibilities" (*Simians* 154). The trope of the cyborg blurs the borderline between man and machine, flagging up the need for a posthuman intervention. Haraway shifts focus to the non-human "actors" while advocating a heterogenous idea of the social and cross-species sociality. In so doing, she brings attention to the "companion species" that cohabit the current quotidian lifeworld. "Cyborgs and companion species," she argues, "each bring together the human and non-human, the organic and technological, carbon and silicon, freedom and structure, history and myth, the rich and the poor, the state and the subject, diversity and depletion, modernity and postmodernity, and nature and culture in unexpected ways" (Haraway, *Companion* 4). Such relational ontologies are premised on Haraway's idea of "naturecultures". This dissertation uses this as a take-off point for analysing entangled corporeality.

The term erases the dichotomy between nature and culture that perpetuates the idea of the human as discontinuous with the rest of the world[3]. To put it differently, "an individual human is not the product of the interaction of nature (body, biology, genes) and culture (nurture, education, technology). What we are insisting on is that human being is a site of natureculture" (Latimer and Miele 11). Haraway's project, along with Barad's, suggests a radical reframing of human/non-human/more-than-human relations (ontology) in the production of knowledge (epistemology). Taking cue from Barad's interactive theory of matter, Vicki Kirby develops the idea of performative materialism where matter perpetually reinvents itself. Drawing on Derrida, Kirby offers an understanding of entanglement between "systemic energies" (*Quantum* 54). For her, "any "unit" is not so much a separate part of a larger whole to which it remains indebted, but rather a unique instantiation of the system's own reinvention (or rewriting) of itself" (Kirby, *Quantum* 55). This is in line with her engagement with corporeality from a poststructuralist standpoint. Kirby highlights the primacy of the tissue of the body in "the sensible textile of an 'arche-writing'" (*Flesh* 56) by illustrating "an inseparability between representation and substance that rewrites causality" (*Flesh* 61). Her attention to flesh and the sensory pre-empts the politics of affect and affectivity. This has subsequently inspired radical posthumanist visions of the body such as "trans-corporeality". The trans-corporeal engagement shows that "the human is always intermeshed with the more-than-human world, underlines the extent to which the substance of the human is ultimately inseparable from 'the environment'" (Alaimo, *Bodily* 2). Such a critical mode informs the coming together of biological, climatic, political and technocratic ontologies.

The Affective Turn

Latour's call for a rehabilitation of matter is given a further nod by the political theorist Jane Bennett. Contrary to Barad's view of "agential realism" that endorses interactivity of matter, Bennett proposes that things have "a certain vital force" (24), even before interaction. Her approach is pivoted on the "vibrancy" of matter and is often identified as vital materialism[4]. Following up on Deleuze's reading of Spinoza, Bennett draws attention to the ways in which the human lifeworld is shaped by "an interstitial field of non-personal, ahuman forces, flows, tendencies, and trajectories" (61). Her reference to extra-human forces and flows takes us to the next theoretical trajectory of this research, viz. the Affective Turn. It was the Dutch-Jewish philosopher Benedictus de Spinoza (1632-1677) who extended a philosophy of the body contra Descartes's insistence on the

mind. This is given weight by Gilles Deleuze's reading of Spinozist thought during the 1960s. Defining the body in Spinozist terms, Deleuze holds that "a body affects other bodies, or is affected by other bodies; it is this capacity for affecting and being affected that also defines a body in its individuality" (123). He advocates this position by referring to "a plane of immanence" where the distinction between the "things that might be called natural and things that might be called artificial" (124), is not tenable. This plane is determined by the distribution of forces and motions among entities for affecting and being affected. Taking this conjecture ahead, Deleuze concludes that "a thing, is never separable from its relations with the world. The interior is only a selected exterior, and the exterior, a projected interior" (125). Such forces and intensities indicate a network of relations indexed by a perpetual state of "becoming" rather than being.

Deleuze consolidates the idea of decentralised forces and depersonalised intensities with Félix Guattari while formulating the rhizomatic model of culture[5]. A rhizome "has neither beginning nor end" (Deleuze and Guattari, *Plateaus* 21); "it is always in the middle, between things, inter-being" (Deleuze and Guattari, *Plateaus* 25). It suggests a complex interplay of human and non-human forces and intensities that resists unitary and unifying practices. This is crucial for considering affect, which requires a view of the body, not as an organically closed system, but as a "machinic assemblage"[6]. In this case, the 'machinic' aspect of an assemblage signifies a state of synthesis, "an intermingling of bodies reacting to one another" (Deleuze and Guattari, *Plateaus* 88). Their efforts to radically open up the body to other bodies foreground the affective flow and movement across materialities. Taking this conjecture ahead, Brian Massumi defines affect as an intensity "embodied in purely autonomic reactions most directly manifested in the skin—at the surface of the body, at its interface with things" (25). For him, the body "doesn't just absorb pulses or discrete stimulations; it infolds *contexts*, it infolds volitions and cognitions that are nothing if not situated. Intensity is asocial, but not presocial—it *includes* social elements but mixes them with elements belonging to other levels of functioning and combines them according to a different logic" (Massumi 30). The emphasis on the asocial/acultural forms of intensity eschew the linguistic logic of bodily phenomena[7]. Drawing on this argument, Patricia Clough theorises "the affective turn" by setting it in opposition to "the linguistic turn".

In her "Introduction" to the influential volume *The Affective Turn: Theorizing the Social* (2007), Clough prods us "to rethink matter and the dynamism inherent to it" (11).

She stresses "the affective turn's privileging of movement, emergence and potentiality in relationship to the body" (Clough, "Affective" 219). To acknowledge such an idea of "vitality" is to challenge not only the bounded self, but also the hermetically sealed notion of individuality. At this juncture, affect breaks down the schism between subject and object, persons and things. As Teresa Brennan puts it, affect shows "that we are not self-contained in terms of our energies. There is no secure distinction between the 'individual' and the 'environment'" (6). Affect theorists endorse the interrelations between the biological sciences and the human sciences in proposing affect as an indeterminate response of the body towards extra-human forces and intensities. While Massumi surmises this response to be autonomous, Sara Ahmed argues that affect corresponds to a situatedness of the affecting object within a "cultural politics of emotions". Drawing upon Edmund Husserl's concept of the "near sphere" or "core sphere", she describes how affects become "sticky" around objects in an intimate bodily horizon. In her essay "Happy Objects" (2010), Ahmed advocates that "certain objects are attributed as the cause of happiness, which means they already circulate as social goods before we 'happen' upon them, which is why we might happen upon them in the first place" (41). For her, the objects become "a feeling-cause" (Ahmed, "Happy" 40) and affect occurs in both directions between subjects and objects within a shared corporeal landscape.

The Cognitive/Neuroscientific Turn

Affectivity in relation to material engagements remains a significant pointer in the escalation of the current thesis[8]. The approach serves to facilitate this dissertation's exploration of embodied and relational forms of subjectivity. Theories of affect consolidate the convergence between body studies and brain science as researchers describe the dynamic of a conscious mind processing affective feelings derived from a vast array of corporeal implications. This is where we turn to the third critical trajectory of this dissertation: the Neuroscientific Turn. The advancements in cognitive neuroscience have necessitated a "neuroscientific turn" or "neuroturn" in scholarship from different disciplines. This thesis draws on Littlefield and Johnson to recognise the ways in which "brain sciences precipitated disciplinary strife, consolidation, and revaluation" (17). The technological imaging of the hard-wired brain introduced us to the chemical and electromagnetic aspects of the mind. With the coming of medical mapping technologies such as the Positron Emissions Tomography (PET), magnetic resonance imaging (MRI) and functional magnetic resonance imaging (fMRI), and the

electroencephalogram (EEG), neuroscientists have informed us that thinking may physically change the brain structures at cellular level. Such an understanding seeks to bridge the natural sciences and the social sciences. The works of Andy Clark, Antonio Damasio, V. S. Ramachandran and Joseph LeDoux, among others, provided this turn with a theoretical rationale.

The cultural anthropologist Clifford Geertz draws our attention to the entanglement between cognition and the codes of culture. He suggests that "our central nervous system—and most particularly its crowning curse and glory, the neocortex—grew up in great part in interaction with culture, it is incapable of directing our behaviour or organizing our experience without the guidance provided by the systems of significant symbols" (Geertz 49). The philosophical and social understanding of the human mind is given a considerable weight by the medical research in neuroscience in subsequent times[9]. By privileging bodily materiality, Shaun Gallagher argues that "the human body and the way it structures human experience also shapes the human experience of self and perhaps the very possibility of developing a sense of self" (*Body* 3). Such a biologistic view of experience subverts the Cartesian rift between corporeality and consciousness. This reiterates the idea of the human as a complex physiological organization integrated into "a fundamental continuity with brute, inorganic matter" (Grosz, *Volatile* 8). To this end, the current thesis sees in the entangled body not just a medical or material condition, but a philosophical and cognitive phenomenon.

For Antonio Damasio, human consciousness is a "unified mental pattern that brings together the object and the self" (*Feeling* 11). In *Descartes' Error: Emotion, Reason, and the Human Brain* (1994) and *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain* (2003), he contends against the dualistic frame of mind-body and goads us to look at the ways in which things shape the mind. Damasio explicates the ways in which neural mechanisms correlate with semantic significance. In so doing, he touches upon the correspondence between the environmentally situated subject and its socially sanctioned behaviour. This is a crucial point of departure in Damasio's work that envisages the scope to combine social and scientific research. He shifts attention to the primacy of embodied experience and informs the necessity to look at matter. Perhaps more than anything else, Damasio's work foregrounds the possibility of the interface between neuroscience and literary studies. By proposing that "mental contents are 'about' things outside the mind" (Damasio, *Feeling* 189), he holds:

> Telling stories, in the sense of registering what happens in the form of brain maps, is probably a brain obsession and probably begins relatively early both in terms of evolution and in terms of the complexity of the neural structures required to create narratives. Telling stories precedes language, since it is, in fact, a condition for language, and it is based not just in the cerebral cortex but elsewhere in the brain and in the right hemisphere as well as the left… the mind's pervasive 'aboutness' is rooted in the brain's storytelling attitude. The brain inherently represents the structures and states of the organism, and in the course of regulating the organism as it is mandated to do, the brain naturally weaves wordless stories about what happens to an organism immersed in an environment. (Damasio, *Feeling* 189-90)

His affirmation of "things outside the mind" to be in correlation with the "structures and states of the organism" reinforces the link between the new materialist view of matter and affect theory's emphasis on the sensory schema by way of looking at the architectonics of the mind. In a similar vein, Andy Clark situates the neural mechanisms of the mind as "an activity of an essentially *situated* brain: a brain at home in its proper bodily, cultural, and environmental niche" ("Brain" 257; emphasis in original). The situatedness of the mind corresponds to a non-subjective idea of the human which is prone to alterity[10]. Clark's hypothesis of the "extended mind" orients us to interrogate such alterities by focalising the ways in which the hard-wired brain extends into the ecosystem.

In October 2007, Shaun Gallagher organised a conference called "Cognition: Embodied, Embedded, Enactive, Extended" at the University of Central Florida. The keywords associated with cognition characterise the modes in which the mind makes meaning out of matter. For the biological placement of the brain, the cognitive profile of an individual is essentially an embodied phenomenon. Second, an individual is perpetually predisposed to an environment. The idea of embedded cognition is underpinned by this situatedness of the body. While these two approaches to cognition focalise the locational aspects of the mind, the enactive mode is premised on lived experiences. The enactive mind corresponds not just to "the perceiving and acting body but the living body, and as such it includes, for example, the viscera, the circulatory system, the immune system, and the endocrine system" (Colombetti xv). It pushes us to recognise that "emotions and moods come with a variety of bodily experiences, and others' bodily posture and facial expressions undoubtedly play a part in how we understand them when we are in their presence" (Colombetti xv). As such, the enactive

approach suggests that bodily movement and affectivity are combined into cognition in a nonrepresentational way. Andy Clark talks about extended cognition as an event where the activity of the mind extends beyond the subject's brain. To make things clear, he invites us to consider the act of reading and writing. Clark writes: "[i]t is not always that fully formed thoughts get committed to paper. Rather, the paper provides a medium in which, this time via some kind of coupled neural-scribbling-reading unfolding, we are enabled to explore ways of thinking that might otherwise be unavailable to us" (*Mind* 126). To draw on his argument, the human cognitive schema extends beyond the epidermis to include among its constituents the artifacts with which the body interacts. These approaches comprise the "4e" model of cognition. More significantly, it foregrounds a dialogue between neural nodes and material objects.

The Posthuman Turn

In analysing select literary narratives of Thomas Pynchon and Don DeLillo, this thesis presents a textually mediated account of the ways in which the feeling body is constitutive of materially informed insights. The neuroscientific account that human cognition is not a hermetically sealed phenomenon, but an ongoing process of actualization, serves to valorise a relational ontology. Such research reveals the demise of strict biological determinism by privileging the human body as a site of endless entanglements. To resist the neurally pre-wired sense of the mind is to risk encounter with ambivalence and alterity. This project draws on the conceptual frame of posthumanism to situate such shifts in contexts. The language of posthumanism promises a radical turn from the sedimented legacy of humanism[11]. This is evident in the destabilization and unsettling of boundaries. It orients us to rethink the "human" by dislodging, what Vicki Kirby calls, the notion of "originary humanicity" (*Quantum* 20). Here, the human can be technologically enhanced and chemically/surgically altered. The coming about of cyberculture and advancements in genetic engineering following the Human Genome Project are signposts of such practices. William Gibson's cyberpunk prodded us to reimagine the individual enmeshed in electronic media and communication networks. This has complicated our understanding of the interface between visceral and the virtual. Amelia Jones articulates this condition by suggesting that "all visual culture plumbs the complex and profound intersections among visuality, embodiment, and the logics of mechanical, industrial, or cybernetic systems" (20). This has broached the informatization of life.

Both DeLillo and Pynchon's work foregrounds televisual broadcasts, digital simulations, disembodied voices and images, emphasising the ways in which "technology couples the functions of the computer with human capabilities" (Benedikt 363). The cultural underpinning of such electronic interconnectedness is exemplified in the works of media theorists. In *Gramophone, Film, Typewriter* (1986), Friedrich Kittler claims that "[m]edia determine our situation" (xxix). It is interesting to see that his book starts off with a quotation from Thomas Pynchon, a writer whose work the current research investigates. Kittler touches upon the spectral quality of digital media that blurs the interface between textual and corporeal orders: "everything becomes a number: quantity without image, sound, or voice" (1). This has problematised the "links between flesh and machine" (Kittler 74). Kittler draws on Marshall McLuhan, whose work points to the intimate connections between information and communication technologies (ICTs) and the way the human mind works. McLuhan's media ecology shows that "[t]he effects of technology do not occur at the level of opinions or concepts, but alter sense ratios or patterns of perception steadily and without resistance" (33). He takes up cues from Heidegger's questions on technology[12] and extends the latter's arguments to interrogate the information age. Against this backdrop, subsequent theorists such as Manuel Castells propose the idea of a "network society" and informatization of life. In such settings, "information generation, processing and transmission become the fundamental sources of productivity and power" (Castells 21). He discerns the ways in which electronic communications give rise to a global network of exchange where the flow of information defines the ontology of human experience.

Castells' work anticipates the entanglement of neural nodes and electronic networks that informs the politics of a posthuman future. For N. Katherine Hayles, such entanglements imply "not only a coupling with intelligent machines but a coupling so intense and multifaceted that it is no longer possible to distinguish meaningfully between the biological organism and the informational circuits in which the organism is enmeshed" (*Posthuman* 35). The posthuman condition precipitated by the ICTs and the cyberculture sheds light on an increasing interplay between organic and inorganic, materiality and hyperreality, among others. Such an ontological interplay found first full articulation in Baudrillard's account of the relationship between the image and real. Looking at the endless production and replication of the disembodied simulacrum, he interrogated the ways in which virtual presence serves to unsettle a corporeal absence.

The fundamental mimetic function of the image merges with the electronic medium of the cyberspace to produce a "hyperreality". It underscores a play of signifiers inscribed by simulated spectacles. The free-floating simulacrum serves to generate a representational imaginary of the real, "an irradiating synthesis of combinatory models in a hyperspace without atmosphere" (Baudrillard, *Simulations* 3). For Baudrillard, it is a cultural condition that threatens the ontological origin of an event. This is given credence by Donna Haraway's take on the "originless" identities.

In addressing the ways in which contemporary cybercultures accentuate man-machine entanglements, Haraway asserts thus:

> Pre-cybernetic machines could be haunted; there was always the spectre of the ghost in the machine. This dualism structured the dialogue between materialism and idealism that was settled by a dialectical progeny, called spirit or history, according to taste. But basically machines were not self-moving, self-designing, autonomous. They could not achieve man's dream, only mock it. They were not man, an author to himself, but only a caricature of that masculinist reproductive dream. To think they were otherwise was paranoid. Now we are not so sure. Late twentieth-century machines have made thoroughly ambiguous the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms and machines. Our machines are disturbingly lively, and we ourselves frighteningly inert. (*Simians* 152)

The ontology of the cyborg destabilises the 'separateness' of organic and inorganic, man and machine, the real and the virtual. The figure communicates the arrival of a posthuman model by doing away with the origin stories and demonstrating a categorical ambiguity between human/animal, man/woman, living/non-living. It is necessary to note why Haraway presents the cyborg as "a creature of social *reality* as well as a creature of *fiction*" (*Simians* 149; emphasis added). This position suggests that cyborgs inhabit the speculative world of the sci-fi and dystopian genre—perhaps best exemplified in the *Terminator* (1984-2019) and *Robocop* (1987-2014) franchise—and infiltrate the crossover terrain of biotechnology, genetic engineering and digitised/computerised environments. Advancements in stem-cell engineering, xenotransplantation, cryogenics and prosthetic technologies herald hybrid life-forms. Such settings, besides

problematising the putative understanding of the human, foreground the individual as an acutely fluid category which can be therapeutically repurposed and technologically augmented. This is what characterises the tenets of transhumanism. The scientific and the literary are entangled in imagining transhumanist spaces and temporalities. Pynchon and DeLillo, as we shall see, consciously underplay the transhuman but recognise the use and implications of such use with an ironic disengagement that maybe mistaken as complicity.

Transhumanism defines the human as an improvable category. It endorses technological interventions into the human body in favour of an enhanced ontology of mankind. Cary Wolfe calls this "an intensification of humanism" (xv), for it presupposes the innate human qualities—emotion, empathy, rationality, etc.—with the prospect of perfectibility. The biotechnological gaze transforms the body into a set of information (DNA and such other forms of genetic sequencing). Nikolas Rose calls it "the molecularization of life". It is necessary to note that this view of the human extends the limits of Foucauldian "biopolitics" in order to accommodate a form of "molecular biopolitics". The rise of advanced laboratory aesthetic enables the mobilization of bodily matter across organic, interpersonal, geographical and industrial architectures: "[w]hether it is the transfer of genes along with their properties—luminescence, salt tolerance—from one species to another, the transfer of treatments from one disease to another, or the transfer of tissues, blood plasma, kidneys, stem cells, molecularization is conferring a new mobility on the elements of life" (Rose, *Politics* 14). The fact that "molecular elements of life may be mobilized, controlled, and accorded properties and combined into processes that previously did not exist" (Rose, *Politics* 14), calls attention to the ways in which human bodily schema can be regulated, delocalised and commoditised into transportable objects. While one may see in these the commercial exploitation of genetic data, such practices show the convergence between medical science and digital technologies.

The Nonhuman Turn and Planetarity

Looking at the combinatory life-forms that the biomedical interventions foster, Rosi Braidotti alerts us to the interactivity of human and the nonhuman: "[a]nimals provide living material for scientific experiments. They are manipulated, mistreated, tortured and genetically recombined in ways that are productive for our bio-technological agriculture, the cosmetics industry, drugs and pharmaceutical industries, and other sectors of the

economy (*Transpositions* 98). To situate the animal question, the current dissertation follows the Nonhuman Turn in critical theory. In his "Introduction" to *The Nonhuman Turn* (2015), Richard Grusin informs us the necessity of a methodological change in engaging with the "ubiquity of nonhuman matters of concern in the twenty-first century" (viii). The turn derives a substantial fillip from the posthuman proposition of inseparability between human/animal and human/plant, and comes in close correspondence with perspectives around the Anthropocene. Drawing on Barad's thesis of entanglement, Donna Haraway suggests an entangled inseparability of species histories. She advocates the idea of interspecies interdependencies that is founded on "the active relations of coshaping" (Haraway, *Species* 208). In this sense, species relations evidence "a vital entanglement of heterogeneous scales, times, and kinds of beings webbed into fleshly presence, always a becoming, always constituted in relating" (Haraway, *Species* 163). The statement unsettles the nonhuman ontologies that classify the animal as an inferior and oppositional "other" to the human individual. Critical Animal Studies[13] provide a theoretical vocabulary to address such problematics.

On the one hand, the field interrogates the representational modes into which animality and the nonhuman forms are subsumed. On the other hand, it challenges the ways in which animal's menacing alterity has led to the institutionalization of species boundaries. Such studies complicate the divide between animate/inanimate, sentient/insentient. The postcolonial ecocritics, Graham Huggan and Helen Tiffin, tell us that the construction of animality is a cornerstone of the Man-making enterprise of European Enlightenment. For them, "if the wrongs of colonialism—its legacies of continuing human inequalities, for instance—are to be addressed, still less to be redressed, then the very category of the human, in relation to animals and environment, must also be brought under scrutiny" (18). The colonialist imperative of animality is given further weight by critics such as Neel Ahuja who argue that the figurations of the animal "relied on the same objectifying methods used to represent slaves and the poor: sentimentality, representations of cruelty, humane manifestos" (556). In *What is an Animal?* (1994), Tim Ingold directs our attention to the ways in which the putative definition of "the animal" is underpinned by the dichotomy between "the natural" and "the cultural". The animal kingdom, he argues, "does not presuppose a capacity for symbolic thought"; whereas "the learned behaviour of the humans is grounded in a symbolic matrix" (Ingold 11). As such, the creation of meaning is projected as an

exclusively human quality premised on the idea of verbal exchange. The "speechlessness" of the animals as an aberration or a lack is anchored in such a proposition. Ingold revaluates this position by inviting us to "perceive animals directly, by virtue of their immersion in an environment that is largely ours as well, regardless of the images that we may hold of them" (12). This is close to what Huggan and Tiffin say about "apprehending animal being… disengaging it from the human/linguistic/cognitive shackles in which that being is generally held" (Huggan and Tiffin 200). Such a view provides an entry point for reorienting animal epistemologies.

In focalising the nonhuman, one finds cues to explore "how 'the human' has been formed and transformed amid encounters with multiple species of plants, animals, fungi, and microbes" (Heise, *Extinction* 195). This change of focus leads to a transspecies entanglement that challenges the assumptions of, what Mel Chen calls, "animacy hierarchy". Chen critiques the conceptual hierarchies among species to offer alternative "understandings of lifeliness, sentience, agency, ability, and mobility in a richly textured world" (29). To imagine the human as a species among other species inhabiting the earth is to risk reducing it into a planetary order. Such claims signify a turn to the Anthropocene humanities. The Anthropocene indicates a geological epoch in earth's history following the Holocene of the past 10,000 years. Adopted by the Dutch meteorologist Paul Crutzen, the term denotes the impact of human environmental agency in shaping the geophysical formations of the planet. For Patrick Whitmarsh:

> […] the Anthropocene amounts to more than a period of human-influenced geology; it redescribes the industrialized planet as a manufactory of mass extinction. The acidification of the oceans, the altering of atmospheric chemistry, the pollution of regional ecosystems, and other environmental crises have been precipitated by developments in energy production going back to the eighteenth century, at least, and exacerbated by several key developments since World War II. Scientists and humanists refer to this postwar moment as the Great Acceleration: an exponential increase in the burning of fossil fuels, nuclear experimentation, the production of plastics, and the global expansion of media and transportation systems. Such postwar transformations constitute an inflection point in what we have come to call the Anthropocene, the geological epoch in which humankind's impact on the planet is being ineluctably etched into the earth's geology and atmosphere. (*Extinction* 7)

Such a situation casts the entangled inseparability of human systems and planetary histories. The conceptual move of the Anthropocene tends to situate the ecological vulnerabilities of planet within neoliberal networks of exchange and transcontinental intimacies and friction. The ways in which fiction combines the present, past and future imaginaries in asymmetric combinations have enabled the genre to investigate key experiential categories of the Anthropocene. With the proliferation of the eco-dystopias and cli-fi[14]—genres that communicate narratives of extinction and imagine possible afterlives of the human race by way of terraforming and other such technologies—the coming together of the climatic and the corporeal conditions visualises pertinent questions in literary texts. The dissertation finds in this an occasion to revisit Pynchon and DeLillo to locate the entanglement of human histories and planetary futures.

In so doing, the thesis subscribes to the theoretical expansiveness of "planetarity". Gayatri Chakravorty Spivak goads us to "imagine ourselves as planetary subjects rather than global agents, planetary creatures rather than global entities" (73). Her call to planetary thought marks a departure from the capitalist and colonial configurations to situate the transnational and transoceanic exchanges within the ambit of planetary ecologies. This view has encouraged methodological imperatives to see the fluidity and plasticity of the atmospheric ontologies. It combines biological existence with geological continuity of the planet. The conceptual impact of such planetary thought maybe seen in "the crumbling of the self-evident distinction of Life and Nonlife, fundamental to biopolitics" (Povinelli 14). In looking at diffused and differential geographies that contribute to the entanglement of life and nonlife, this thesis takes up forms of political imaginaries that decentralise anthropocentrism.

Such a move highlights the finitude and fallibility of the human. Anna Tsing makes a case for this by focalising the matsutake mushroom as an ontological opposite of the human. In *The Mushroom at the End of the World* (2015), Tsing shifts focus from the animate lifeworld towards the mycorrhizal ontology to argue that they evidence "a mosaic of open-ended assemblages of entangled ways of life, with each further opening into a mosaic of temporal rhythms and spatial arcs" (4). Tsing's call to reimagine the planet by assuming that the humans and the vegetal life-forms[15] co-constitute each other provides a portent of "the planetary turn" advocated by Amy J. Elias and Christian Moraru. The duo also acknowledges technological immersion and digital interactivity as forces that

foster planetary interdependencies. Such a two-pronged approach to planetarity is beneficial for the current dissertation's exploration of entangled corporeality.

Drawing on the philosophical frames underlined in this chapter, the dissertation reads the logic of the corporeal in fiction. The 'turns' highlighted above envisage a coming together of literary critics, sociologists, political theorists, geographers, physicists, art historians and anthropologists in exploring and enriching the idea of the body. Such an engagement illuminates the trans-disciplinary scope of body studies. The thesis presents a cross-fertilization of ideas to look at fictional frames as transmedial representations. Through creative reconfigurations of phenomenality and materiality, literary productions revisit the ontology of lived experience. The five primary texts examined in this project are studied as rich cultural documents of their times that articulate a complex and layered body of critical thinking on corporeal entanglement or entangled corporeality. Given the fluidity of the fictional medium, the dissertation draws on contextual affinities with other novels and cinematic narratives. The idea is that literature and films can produce revaluations of subjectivity and lived realities, often by pointing to the entangled body. To this end, the thesis privileges the unique perspectival position offered by fiction to engage with corporeal entanglements. These formations are produced and prohibited by postmodernist narratives, as if to show how bodies, lives and objects are endlessly entangled.