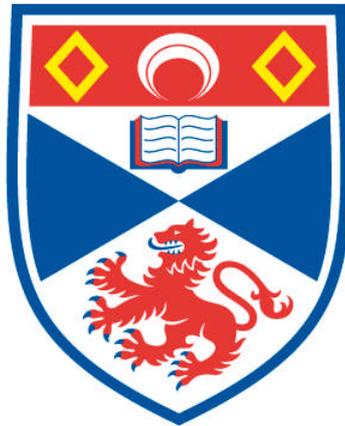


A PHENOMENOLOGICAL-ENACTIVE THEORY OF THE MINIMAL SELF

Brett Welch

**A Thesis Submitted for the Degree of PhD
at the
University of St Andrews**



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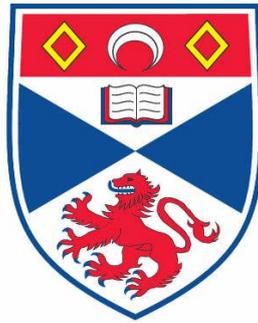
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A Phenomenological-Enactive Theory of the Minimal Self

Brett Welch



This thesis is submitted in partial fulfilment for the degree of PhD
at the
University of St Andrews

Date of Submission: 4/10/2013

Abstract:

The purpose of this project is to argue that we possess a minimal self. It will demonstrate that minimal selfhood arrives early in our development and continues to remain and influence us throughout our entire life. There are two areas of research which shape my understanding of the minimal self: phenomenology and enactivism. Phenomenology emphasizes the sense of givenness, ownership, or mineness that accompanies all of our experiences. Enactivism says there is a sensorimotor coupling that occurs between us and the environment in a way which modulates the dynamic patterns of our self development; the laying down of these basic patterns helps make us who we are and gives rise to the phenomenological, experiential mineness. Drawing on these two core ideas, I will be arguing for a Phenomenological-Enactive Minimal Self (abbreviated PEMS). I will be emphasizing the role of the body and the role of affects (moods, feelings, and emotions) as the most important components relevant to understanding minimal selfhood. Put more concretely, the set of conditions which constitute the PEMS view are: (i) The minimal self is the experiential subject; the minimal sense of self is present whenever there is awareness. It is the subjectivity of experience, the sense of mineness, or givenness which our experiences contain. (ii) The phenomenological part of the PEMS view turns on the idea of a bodily and dynamic integration of sensorimotor coupling and affective experience. It is, ontologically speaking, the lived body in enactive engagement with the environment. It is this embodied subject which anchors and forms the foundation for the later 'narrative' self, which emerges from it and which is continually influenced by it. It is the subject enactively engaged with others, dependent on sensorimotor processes and affects. We have an identity, but it emerges from relational and dynamic processes.

1. Candidate's declarations:

I, Brett Welch, hereby certify that this thesis, which is approximately 82,000 words in length, has been written by me, that it is the record of work carried out by me and that it has not been submitted in any previous application for a higher degree.

I was admitted as a research student in September, 2009 and as a candidate for the degree of PhD in September, 2009; the higher study for which this is a record was carried out in the University of St Andrews between 2009 and 2013.

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This work is dedicated in memory of my grandparents: Fern and Robert Wodtke. Although my grandfather learned of my desire to pursue research in the St Andrews/Stirling Philosophy Programme (SASP), and my grandmother knew of my acceptance into SASP, they both died before my work began; yet without them I never would've been able to embark on this journey in the first place. I will be eternally grateful to them for the love and support they gave me which made all this possible. I wish they could've lived to see this completed work.

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“[T]he very fact that we employ notions like first-person perspective, for-me-ness, and mineness in order to describe our experiential life, the fact that it is characterized by a basic and pervasive reflexivity and pre-reflective self-consciousness, is ultimately sufficient to warrant the use of the term ‘self.’”¹

INTRODUCTION

What is a ‘self’? What is a ‘sense of self’? Do these two ideas equate? If there is a self, does it have some foundation or core (what we might call a ‘minimal’ self)? If there is a minimal (sense of) self, is it just a useful conceptual idea of only instrumental value, or is it an actual entity with a corporeal or embodied realization? If we have it at some early point in our lives, does it disappear or fade away, or does it ‘hang around’? How many components are there to the self and how do they relate to each other? The purpose of this project is to demonstrate and focus on the fact that yes, there is a minimal self, and that this minimal self has a phenomenological ‘sense’ to it. It will demonstrate that this minimal self is not only an instrumentally useful idea, but that it actually has a physical basis as well. It will show that the minimal self is something that arrives early in our development and continues to remain and influence us throughout our life in all our experiences. There will be two areas of research which will shape my understanding of the minimal self:

- (i) *Phenomenology* emphasizes a sense of *givenness, ownership or mineness* that accompanies our experiences.²
- (ii) *Enactivism* shows that there is a sensorimotor coupling between us and the environment which modulates the dynamic patterns of self development, laying down the basic patterns that help make us who we are – by giving rise to the phenomenological *mineness* just highlighted.

Based on these ideas, this project will argue for a Phenomenological-Enactive Minimal Self (abbreviated PEMS).³ Within these two broad research areas, I will be emphasizing the role of

¹ Zahavi, Dan. “The Experiential Self: Objections and Clarifications.” Mark Siderits, Evan Thompson, and Dan Zahavi (Eds). Self, No Self? Perspectives from Analytical, Phenomenological, & Indian Traditions. (UK: Oxford, 2011), 333 (emphasis original).

² Within philosophy, the term ‘phenomenology’ has been used in different ways by different philosophical traditions (i.e. the analytic and the continental). In this project we will be drawing upon phenomenology as it is understood in the continental tradition (as should become clear shortly).

³ In this project the PEMS acronym will be used two ways (i) to indicate the theory and (ii) to indicate the phenomenon. The context of use should make it clear which meaning is in play.

the *body* and the role of *affects* (moods, feelings, and emotions) as the most important foci of phenomenology and enactivism relevant to understanding minimal selfhood.

Studies of the self have frequently focused on and discussed the so-called 'narrative' self (also sometimes called an autobiographical self or social self, since it is based on the stories which we – and others – tell about each other). Although the purpose of this project is to focus on what the minimal self is, it will accept that there is a narrative self, but it will argue that the narrative self is something which emerges later than, and is always influenced by, the minimal self.

1. Locating the Minimal Self within the framework of the debates on the self.

If selves do exist then what are they and how do they emerge? In our progression from a foetus through infancy and childhood, to adulthood and old age, how does the self emerge, develop, and change? Foetuses and infants lack the cognitive development of an adult 'self,' yet the adult self cannot exist without having gone through the infant stage.⁴ Is there some process in our development which lies behind our conscious, reflective awareness (some type of pre-reflective awareness) that grows into our more familiar reflective self? If so, then how? The key question here is 'Who Are We'? Answers in this debate have ranged across much territory. However, because I wish to focus on and present what makes up the minimal form of self, I will be selective in the ideas that will be presented so that my position can be better oriented.

1.1 The Kantian notion of the Self

Let us begin by looking at the different conceptions of the self that exist to see where my arguments will fit within this scheme. Consider first the Kantian idea of the Self. The argument here says that although we have different experiences, there is one thing they all have in common – they all have the same subject. Behind the constant change to our stream of consciousness, the self that we are remains the same throughout these shifts in experience. To explain further: our experiences always necessarily refer back to a 'pure' subject. This *subject* of experience cannot be given as an *object* of experience, thus, although we can infer

⁴ That is to say, the adult self cannot exist without going through the infant stage outside of the fantasies of science fiction or philosophical thought experiments. In this project I will not be concerned – or dealing with – these types of fictional hypotheses.

that a self exists, the self is not something which we can experience ourselves.⁵ As Kant says: “it is...evident that I cannot know as an object that which I must presuppose in order to know any object.”⁶ Another way to understand this view is that of a *transcendental* account. A transcendental approach looks at the conditions of possibility for the knowledge we have of ourselves and everything else. For Kant there is an *a priori* structure to our mind which is independent of our actual experiences. The mind and self are thus prior to any experience.⁷ The Kantian self is a static structure that lies behind experience, whereas the PEMS is based in dynamic experience. As we will see, PEMS will emphasize dynamic structures and processes which don’t lie *prior* to experience, but *create* experience *as* the process. The Kantian self statically lies behind experience, PEMS will argue that the self emerges as *part* of the experience.

1.2 The Fictional Self

Daniel Dennett views the self as a ‘narrative gravity.’ He argues that the self is best understood as a fictional character in a story ‘told’ by the physical organism. This means the self is more or less based in – and emerges from – our biological need for self-preservation.⁸ That is, along with the basic adaptive strategy we have as animals to procure food and seek out reproductive partners, we have something else over and above other animals, and that is the unique way in which we *present* ourselves to others and ourselves. This is an abstract perspective, where the numerous stories we tell about ourselves intersect, but are tied in with our most basic biological nature. Dennett describes these theoretical fictional selves as follows:

“Our fundamental tactic of self-protection, self-control, and self-definition is...concocting and controlling the story we tell others – and ourselves – about who we are. And just as spiders don’t have to think, consciously and deliberately, about how to spin their webs...we...do not consciously and deliberately figure out what narratives to tell and how to tell them. Our tales are spun, but for the most part we don’t spin

⁵ Zahavi, Dan. Subjectivity and Selfhood: Investigating the First-Person Perspective. (MA: MIT Press, 2005), 104.

⁶ Kant, Immanuel. Critique of Pure Reason (Tr. Norman Kemp Smith). (NY: Palgrave MacMillan, 2007), 365.

⁷ Gallagher, Shaun. Phenomenology. (UK: Palgrave, 2012), 22.

⁸ Dennett, Daniel. “The Origins of Selves.” Daniel Kolak and Raymond Martin (Eds). Self & Identity. 359.

them; they spin us. Our human consciousness, and our narrative selfhood, is their product, not their source.”⁹

According to Dennett these narrative streams are simply the outcome of how we represent ourselves under constantly changing circumstances. The tales we spin of ourselves creates a centre of narrative gravity which we call the self. This self is the result of an adaptive strategy that has evolved over time because it has had some fitness advantage for us (e.g. based on us seeking out food, shelter, mating partners, etc). The human environment contains not only food, shelter, and mating opportunities, but also a world based on words and communication.¹⁰

Unlike Kant, Dennett has an idea of a minimal self. He says:

“a minimal self is not a *thing* inside...it is something abstract which amounts just to the existence of an organization which tends to distinguish, control, and preserve portions of the world, an organization that thereby creates and maintains boundaries.”¹¹

This is the first time we’ve seen a definition of a minimal self other than the brief mention I made of my view at the very beginning. What are we to make of this view, and how does it relate to what I am pursuing? Dennett says the minimal self amounts to ‘an organization which tends to...preserve portions of the world [and] creates and maintains boundaries.’ There is something about this definition that would fit in with the account of the minimal self that I will be developing: the idea of closely bringing together the give and take relationship of the organism and world into one of the minimal conditions for selfhood. The general idea of the organism creating, organizing and maintaining boundaries, is consistent with the view I wish to develop. However, Dennett doesn’t go far enough with his understanding of interaction, and we will see that there is a lack of phenomenology in his account. A detailed comparison of this view and mine will have to occur later¹², but here, at least, we’ve seen a conception of what a minimal self might look like.

⁹ Dennett, Daniel. Consciousness Explained. (MA: Back Bay Books), 418.

¹⁰ Dennett. Consciousness Explained. 417.

¹¹ Dennett, Daniel. “The Origins of Selves.” Self & Identity. 358 (emphasis original).

¹² And it will in the last chapter when other competing views of the self are evaluated and compared to mine.

1.3 No-Self

Like Dennett, Thomas Metzinger adopts a biologically-based viewpoint; however, he presents it as a type of 'no-self' view. Dennett thought that different physical subsystems influence the language centre of the brain to produce abstract narrative 'selves' that reflect the organism's struggles in the world. Metzinger goes further and argues that it is not only the self, but our entire view of reality which is a simulation. Dennett says the self is a product of the language centre of the brain, thus giving it a linguistic or narrative basis, but Metzinger places the human perception of the world and its self-model in a type of simulated virtual reality, which is not 'real,' thus the 'no-self' view. He calls his theory the 'phenomenal self-model' (PSM) account; it works as follows. The PSM of the organism as a whole is created and activated by the brain. It is the brain that gives us a phenomenal – or experiential – means by which things subjectively appear to us.

“The PSM of Homo sapiens is probably one of nature’s best inventions. It is an efficient way to allow a biological organism to consciously conceive of itself (and others) as a whole. Thus it enables the organism to interact with its internal world as well as with the external environment in an intelligent and holistic manner.”¹³

The representational content of our PSM (our conscious experience) is filled with feelings of 'mineness' and a conscious sense of ownership, that is, the things that are part of our conscious Ego have this sense of 'mineness' or we feel we have ownership of it. We may, for example, be imagining ourselves climbing up a mountain, but it would be *our* body doing it, and *our* thought of doing it. However, this “ongoing process of conscious experience is not so much an image of reality as a tunnel *through* reality.”¹⁴ Our Ego is simply the content of our PSM in a particular moment in time, “[i]t is not reality itself but an image of reality.”¹⁵ That is to say, we don't actually have some "deeper, holistic sense of self," instead it is simply just "a form of representational content" that "can be selectively manipulated."¹⁶ In Metzinger's view we don't consciously experience reality, rather, we tunnel *through* it. The brain first creates a *simulation* of the world, and from there it creates an inner image of our self as a unified whole within this world. The Ego we experience is simply the centre-point of a self-model within a world-model. In Metzinger's understanding, there is an experience occurring, but this is

¹³ Metzinger, Thomas. The Ego Tunnel: The Science of the Mind and the Myth of the Self. (NY: Basic Books, 2009), 4-5.

¹⁴ Metzinger. The Ego Tunnel. 6 (emphasis original).

¹⁵ Metzinger. The Ego Tunnel. 8.

¹⁶ Metzinger. The Ego Tunnel. 6.

based, first, in feelings and bodily sensations. These experiences give us our point of view. And secondly, we are unable to recognize our self-models *as* models. The means by which conscious information reaches us is something which we are unaware of – a large portion of our PSM becomes transparent to us.¹⁷ Because of this there is no self: the biological organism is not a self, and the Ego is not a self (it is just a form of representational content). For Metzinger we are never directly in touch with reality: the sensory components in our brain are simply serving as filtering mechanisms. Moreover, “the phenomenal content is determined locally, not by the environment at all but by internal properties of the *brain only*.”¹⁸ This last sentence is key to one of the differences between his account and the PEMS view I will be arguing for, which relies heavily on the biological organism’s direct contact, interaction, and reciprocal modulation with the world – Metzinger isn’t thinking about the environment in the right sort of way according to the PEMS account. PEMS will be heavily focusing on feelings of ‘mineness’ and bodily ownership, but it will be arguing for an intimate, undivided, and direct mutual relational modulation between the organism and the environment which includes the brain, body and the environment as all being key structures in this operation. Let us now move directly into what I will be arguing for in regards to what makes up a minimal self.

1.4 Phenomenological notion of Self

The Phenomenological perspective will be the starting point we will be adopting for this PEMS project. The other notions of self will come up from time to time so as to keep ourselves oriented, but they won’t come up for sustained analysis until the final chapter (chapter 11) when we wrap everything up. A phenomenological notion of the self (drawing on views from Dan Zahavi) “calls for an examination of the structure of experience,” it says that “the investigation of self and experience have to be integrated.”¹⁹ This notion of self is not a fixed transcendental structure like we found in the Kantian perspective. It is also not a narrative construct that changes over time – it looks at the immediate experiential reality of our conscious life. But as we shall see as we present it through the PEMS lens, rather than understand this experience as simulations of a unified self in a simulated world in the style of Metzinger, PEMS *integrates* self and world, and sees them as immediate and real. This view of the self (when incorporated into PEMS) is minimal in form in that it is minimally necessary for selfhood at all (including a narrative self). The phenomenological element of PEMS lacks the richness and complexity of the more robust self (which we can understand as the minimal self

¹⁷ Metzinger. [The Ego Tunnel](#). 7.

¹⁸ Metzinger. [The Ego Tunnel](#). 10 (emphasis mine).

¹⁹ Zahavi. [Subjectivity and Selfhood](#). 106.

along with the later emergence and interaction of a narrative self); so what do we mean by the minimal self? What we mean is that the minimal self is the simplest structure that can exist which we can call a self. In sum, the structures revealed by the PEMS account are necessary and sufficient for selfhood in a minimal form, while this minimal form of selfhood is necessary for all more complex forms selfhood.

A phenomenological notion of self looks at the first-person givenness of experience. In the words of Dan Zahavi: “in its first-personal mode of givenness; it is a question of having first-personal access to one’s own experiential life.”²⁰ What is this minimal dimension of *ipseity* (selfhood), and what is it made-up of? Maurice Merleau-Ponty said *ipseity* was to be found in the integration of body and environment. The first-person perspective that is unique to each of us is essentially embodied on Merleau-Ponty’s account: “The body is the vehicle of being in the world, and having a body is, for a living creature, to be intervolved in a definite environment.”²¹ How does this body-world relationship work? Merleau-Ponty says:

“In so far as I inhabit a ‘physical world,’ in which consistent ‘stimuli’ and typical situations recur...my life is made up of rhythms which have not their *reason* in what I have chosen to be, but their *conditions* in the humdrum setting which is mine. Thus there appears round our personal existence a margin of *almost* impersonal existence, which can be practically taken for granted, and which I rely on to keep me alive.”²²

Let’s consider this more closely. Lying behind those instances when I think or reason about some particular stimuli in the world, lies the much larger, constant, rhythm of being-in-the-world that is largely taken for granted by us. A phenomenological notion of self based in this perspective says that our experiences should not be viewed as objects which we reason about, but instead are what provide us with access *to* objects. Our first-person givenness makes our experiences subjective; it “entails a built-in self-reference, a primitive experiential self-referentiality.”²³ To understand *ipseity*, we should not focus on just the ‘subject of experience,’ but on the ‘subjectivity of experience,’ the latter interpretation emphasizes the primitive self-referentiality that makes up first-person givenness. This first-person givenness can also be described as a sense of *mineness*. Under normal circumstances, any immediate and noninferential subjectivity of experience has a sense of being *my* experience. As Zahavi says, “The mineness is not something attended to, it simply figures as a subtle background

²⁰ Zahavi. Subjectivity and Selfhood. *ibid.*

²¹ Merleau-Ponty, Maurice. Phenomenology of Perception. (UK: Routledge, 1962), 94.

²² Merleau-Ponty. Phenomenology. 96 (emphasis original).

²³ Zahavi. Subjectivity and Selfhood. 122.

presence.”²⁴ A minimal sense of self does not stand apart from, or above our experience, the mineness experienced is pre-reflective, it lies before any attempt on our part to consider, analyze, or reflect upon what our experience is. The minimal, or core, sense of self is not something parallel with or even opposed to our normal stream of consciousness. The first-person givenness of the stream of consciousness *constitutes* the mineness of the experience. Julian Kiverstein provides a succinct view of the minimal self which is very PEMS friendly, when he states that for “a *minimal sense of self*...my conscious states immediately reveal themselves as mine...[t]o be aware of a state of mind *as your own* is to have a minimal sense of self.”²⁵

1.5 The Enactive notion of Self

We just saw that the phenomenological perspective on *ipseity* says the core sense of self is ‘immersed in conscious life,’ and that it ‘is an integral part of its structure.’ What is this structure? We will see that the phenomenological account will be able to properly explain a vital component of minimal selfhood (that is, it can explain how we understand and respond to our being-in-the-world), but it doesn’t show *what* the structures are that make it up and give rise to it. Phenomenology, by itself, doesn’t do enough to explain the minimal self. My contribution towards elucidating what minimal selfhood is will be to lay out a version of the phenomenological interpretation of the self, but to complete the missing aspects of the resulting account of selfhood by introducing insights developed from the perspective of enactivism. I will argue that enactivism is the approach that is necessary in order to show what the structures are that create the phenomenology, and demonstrate how it operates. Furthermore, I will be expanding the phenomenological and enactive views in a new way by bringing in and emphasizing the importance of affects as vital and essential structural members of these views.

What is enactivism? Enactivism is a research approach found within the cognitive sciences, in what has recently been called 4E cognition. 4E cognition says that mental processes are embodied, embedded, enactive, and/or extended (explanations to follow).²⁶ These concepts were influenced by work in psychology and (neuro)biology, along with being influenced by phenomenological philosophers such as Edmund Husserl, Martin Heidegger, and

²⁴ Zahavi. *Subjectivity and Selfhood*. 124.

²⁵ Kiverstein, Julian. “Consciousness, the Minimal Self, and Brain.” (*Synthesis Philosophica*, 44, 2007), 341 (emphasis original).

²⁶ Rowlands, Mark. *The New Science of the Mind: From Extended Mind to Embodied Phenomenology*. (MA: MIT Press, 2010), 3.

Maurice Merleau-Ponty.²⁷ The 4E approach says that cognitive processes are (i) *embodied*, which means mental processes are at least in part made up of, or are structured in fundamental ways, by bodily forms and processes, (ii) *embedded*, which means that mental processes work in close causal partnership with and subtly exploit structures in the environment, (iii) *enacted*, which means that cognitive processes are not just composed “of neural processes but also things that the organism *does* more generally” – how it “acts on the world and the way in which [the] world, as a result, acts back on that organism,”²⁸ (iv) *extended*, which means that mental processes do not occur just within the boundaries of the head, or the body, but extend out into the environment. All four of these related approaches are based in an idea that context and situation contribute to our understanding of how mental processes operate. Indeed, mental processes are in fact dependent (causally or constitutively) on the contextual situation in which we find ourselves.²⁹ Although this project draws on ideas that are found in the *embedded* and *embodied* categories, it will primarily be focused on developing the category of *enactivism* as a way of lending support for the phenomenological notion of a minimal self.

We have just introduced the 4E approach to cognition, so how does this reveal the structures underpinning the minimal self? Let us break enactivism down into more detail. We will briefly look at five ideas that are central to the approach and to what will follow. Evan Thompson, one of the main proponents of enactivism, has proposed the following five ideas that serve to characterize the view:³⁰

- (i) Living organisms “are autonomous agents that actively generate and maintain themselves, and thereby also enact or bring forth their own cognitive domains.”
- (ii) “[T]he nervous system is an autonomous dynamic system” that “actively generates and maintains its own coherent and meaningful patterns of activity.”
- (iii) “[C]ognition is the exercise of skilful know-how in situated and embodied action.”
- (iv) “a cognitive being’s world is not a prespecified, external realm, represented internally by its brain, but a relational domain.”

²⁷ Gallagher, Shaun. “Philosophical Antecedents of Situated Cognition.” Philip Robbins and Murat Aydede (Eds). The Cambridge Handbook of Situated Cognition. (UK: Cambridge University Press, 2009), 35.

²⁸ Rowlands. The New Science of the Mind. *ibid*.

²⁹ Rowlands. New Science of the Mind. *Ibid*. Robbins, Philip and Murat Aydede. “A Short Primer on Situated Cognition.” The Cambridge Handbook of Situated Cognition. 3.

³⁰ I introduce these ideas now in Thompson’s own words; however, throughout this project these ideas shall be brought back at the relevant time and expanded upon to fit within the PEMS theory.

- (v) “[E]xperience is not an epiphenomenal side issue, but central to any understanding of the mind.”³¹

The emphasis of this project will be to take these ideas and see how they manifest themselves at the level of the human being in regards to creating and maintaining the minimal self. It will be argued that the sensorimotor coupling between a human being and the environment modulates the dynamic patterns of self development, laying down the basic patterns that help make us who we are. The way in which this relational modulation is experienced enhances our understanding of selfhood (thus the emphasis on phenomenology and its examination of the *subjectivity* of experience). Looking at this enactive and dynamic approach to self will help explain *ipseity* and subjectivity by showing how the subjectivity of selfhood arises. Enactivism gives us another benefit, in that it encompasses a framework and perspective which applies to the intentionality and the intersubjectivity of self experience. It was stated that the minimal self emerged through sensorimotor coupling with the environment; this is an environment which includes dynamic interaction with other selves. “We do not first perceive non-intentional movements,” says Shaun Gallagher, “and then make inferences to what they mean. We perceive the actions and emotional experiences of others as a form of intentionality – i.e. as meaningful and directed;”³² this in part gives us the first-personal sense of *mineness*. The way we perceive and interact with others depends on embodied sensorimotor processes. We perceive others in their intentional movements as they are engaged in projects – and directed at goals – with the world, a world of which we are obviously a part. This is one important way in which enactivism plays a part: in a type of bodily intersubjectivity. Intersubjectivity is *part* of the minimal self. We develop a sense of self *in part* through our interactions with other selves. This (bodily) intersubjectivity begins in the minimal self and is then expanded upon in narrative levels of self. For the purposes of the PEMS theory, then, phenomenology will give us the ability to more clearly understand the *givenness* and *mineness* of our lived experience, and enactivism will allow us to see how these phenomenological elements are dynamically generated; and these two elements of minimal selfhood will all come to be developed through sensorimotor movement, affects, and how they mould, shape and create our intentional and intersubjective experience.

This all-too brief overview of the subject just given should provide the beginning of a picture of a self forming. This is a picture that shows a narrative self that is dependent on a

³¹ Thompson, Evan. Mind in Life: Biology, Phenomenology, and the Sciences of Mind. (MA: Harvard, 2007), 13.

³² Gallagher, Shaun. Phenomenology. (UK: Palgrave, 2012), 76.

more basic phenomenological-enactive self. There *is* a narrative element to the self, but it *presupposes* and is *continually influenced by* a minimal self. When we look at a complete, full picture of the self, we usually take the person's abilities, interests, traits, and beliefs into account, as well as their responses to family, community, strangers, and other social interactions. This is undoubtedly what is necessary for coming to an understanding of what the self is in the big picture: a fully developed understanding of the self can only be understood by taking into account personal subjectivity along with personal intersubjectivity, and this has a narrative element to it. What this project on the phenomenological-enactive minimal self will explore, develop, and argue for, is that there is a starting point which kicks this process off and continues to play a role throughout the lifespan of the individual.

2. Thesis and Layout of the Project

The aim of this project is to show that there is a minimal self. This will be done by drawing on a variety of empirical scientific data and models and using the phenomenological and enactive frameworks to interpret, synthesize, and unify them. Many of the views that will be looked at have argued for – or included – some idea of a 'core' or minimal form of self. Here they will be brought together in a new way which has not been done previously, by showing the importance of the body and affects in the constitution of this minimal self. This will be accomplished by dividing the project into three different parts: (1) The Bodily Self; (2) The Affective Self; (3) The Phenomenological-Enactive Minimal Self. Each of the three parts will be building us up to a clearer understanding of what the Phenomenological-Enactive Minimal Self is. Each of the first two parts will have something unique to say about what the minimal self is, with Part I demonstrating its bodily aspect and Part II providing us with the important role that affects play, and how they've been neglected in previous inquiries into selfhood. Part III will then pull it all together to show us the whole picture.

Merleau-Ponty's views on the phenomenology of the body will form the background for what we will explore in Part I: The Bodily Self. The purpose of Part I is two-fold, first, to show the dependence of the minimal self on a type of embodiment, and second, to understand what conception of 'the body' is in play in developing our most basic understanding of 'self.' Although initially inspired by Merleau-Ponty's ideas, the arguments to be made will be accomplished by drawing on modern discussions which have emerged from the embodied/situated cognition debate, and how they are asking us to question our previous conceptions of the body. If we are to understand how an enactive account can assist us in

exploring one's minimal sense of self, we need to ask questions which get at the very core and emergence of the body and all that springs from it. This first part will demonstrate how the body serves as the focal point of the minimal self through five chapters. We will begin in chapter 1 by exploring work done in developmental infant psychology. This will reveal how the minimal self first emerges through embodied actions and interactions. The very beginning of sensorimotor dynamics and meaningful patterns of activity are established at this time. The look at infants will show how through their own movement and watching others move they acquire a greater understanding of the world and their place in it. It will show what these early emerging patterns of self look like. Discoveries based on work done with so-called 'mirror neurons' will make up the next chapter (chapter 2). This chapter will reveal how neurobiology can help explain part of our ability to relate intersubjectively to others, and acquire meaning and understanding of their movements, *through* their movements. This intersubjectivity has its basis and development in bodily understanding. Mirror neurons assist in establishing the primal embodied subjectivity that is important in forging the minimal self. Mirror neurons reveal that our understanding of ourselves and others is based on understanding of not just mechanical motions of the body, but the actual *intentions* of our movements via their bodily movements. If the first chapter on infants indicated how understanding and meaning emerges in early development, chapter 2 with its analysis of work on mirror neurons will provide one of the neuroscientific underpinnings of this *meaning* or *understanding* of movement. The work of mirror neurons underlie our conscious, reflective awareness, and as such, it gives us an intriguing insight into one of the neurobiological components of a pre-reflective minimal self. Looking at aspects of what are called the 'body schema,' 'proprioception, and the 'body image' will make up chapter 3. The terms just mentioned are used frequently in discussion of embodiment and by looking into them we will get a clearer understanding of the embodied character of our existence. As such, this will be vital for laying the framework for getting our mind around what it is to be embodied in the world and how the reflective elements of self reflection can emerge from – and interact with – pre-reflective components. The terms and ideas that will be explored in this chapter will provide us with the first tools with which we can interpret the data which we will have looked at, and which we can keep in mind for what will follow. More than that, these proprioceptive structures which will be examined will assist in explaining the self-reference which makes up our subjectivity or experience. In chapter 4 we will explore self ownership and self agency. These ideas, along with the body schema/image distinction, will be re-analyzed in a way which should demonstrate what a minimal self looks like and where it can be found. New terms will also be introduced to help us unify this idea of a minimal self. For example, instead of using a static term such as 'body schema' to describe

the sensorimotor capacities of the body that function outside our conscious awareness, we will see that a term that better portrays the embodied, flowing, ever-changing nature of these bodily capacities is 'corporeal kinetic patterning.' This chapter will also examine a notion of Minimal Self that Shaun Gallagher has. Part I will end in chapter 5 with a look at the meaning of gesturing. By looking at the relationship between gesturing and language use in children, along with those who are deaf and blind, we will get an important insight into the importance of the body in structuring – or even serving as – our thinking. The emphasis here being that our gesturing may reflect vital aspects of our self, yet lie behind our conscious and reflective awareness, and thus make up part of our minimal self. All five of these chapters will allow us to build up an understanding of a minimal bodily self that shows the pre-reflective origin of the self, and how it transitions into – and continues to influence – the reflective aspects of self. It should demonstrate that our 'higher-level' forms of self are based in a bodily self which forms its basis and foundation.

A Heideggerian-style phenomenology will form the background for what we will explore in Part II: The Affective Self. Martin Heidegger (in *Being and Time*, for example) asked questions related to what it is to be human – what is Being? What is it to-be? In doing so he frequently focused on affects (e.g. dread and anxiety) as ways of showing how affects alter our world view. Affects can serve as a way of disclosing or opening up to the world. Affects (emotions, feelings and moods) have to a large degree been neglected in attempts to lay out what the 'self' is, with notable exceptions being, for example, Antonio Damasio, Joseph LeDoux, and Jaak Panksepp. Work by such thinkers has begun to show – and begun new areas of research on – how vital affects are to understanding cognition, being and selfhood. I think that if we want to discover what the 'self' is, then we will have to explore the affects which are vital in the make-up of our being. Part II will move this discussion forward by looking at affects. Whereas the first part will have drawn together some diverse areas under the label 'bodily self,' here we will look specifically at affects and how they can be understood, both empirically and phenomenologically. Part II will be composed of four chapters: first, we will see that evolutionary development and neuroscience show that affects have a basis in maintaining bodily equilibrium (chapter 6). This chapter will show how neurobiology, the body, and affects are intimately intertwined, and thus this will begin to give us a unified picture of the contributions of body and affects to the formation and maintenance of the minimal self. Next we will critically examine cognitive accounts of affects, that is, the idea that our emotions are actually 'judgments' or 'choices' that we make (chapter 7). We will see that although *some* 'higher' level evaluative emotions (more at the narrative level of self) can be

understood as judgments or choices, most of our emotions are based in a more basic, or 'primitive,' bodily phenomenology. We will see in chapter 8 that phenomenology can provide us with an understanding of affects which shows that they are not just ways of maintaining bodily equilibrium, but that they provide us with an 'opening up to the world' (i.e. the way in which we encounter and interpret the world). Finally, in chapter 9, we take our examination of affects and explain how they operate for the Phenomenological-Enactive Minimal Self. The focus in this second part is not only to find a bodily basis for affects, but to show how a phenomenological account fits with the physical-basis of emotions.

Part III: The Phenomenological-Enactive Minimal Self (PEMS) will take the ideas presented in the first two parts and bring them together – along with some other unifying concepts – and finally give us the Phenomenological-Enactive Theory of Minimal Self. This final part will be broken down into two chapters. The first of these (Chapter 10) will present two theories of consciousness: a dual process theory of consciousness, and the nested neural hierarchy theory. These two theories will show us how the pre-reflective (minimal) bodily self interacts with and relates to the higher-level reflective (narrative or socially constructed) self. The final chapter in part III (chapter 11) will be comprised of four sections, the first will formally lay out the Phenomenological-Enactive Theory of Minimal Self. It will pull together all the ideas previously looked at throughout this project (e.g. those found in infant development, gesturing, and affects), so as to see what a minimal self is, how it comes to be, how it continues to influence us, and how –interestingly – all of these are intertwined. We will also at this point see how the PEMS theory compares to other views. In the second section of chapter 11 we will return to Dennett and his theory of the self as a 'center of narrative gravity.' It will be shown that problems that arise in his view can be responded to much more successfully by PEMS. The third section brings us back to Metzinger and his phenomenal self model (PSM). Again, we will see how PEMS is better than PSM at explaining the conscious experience of being a self. The final chapter ends with a look at an alternative enactive account of the self, one put forward by Francisco Varela, Evan Thompson, and Eleanor Rosch. By looking at their view – and how Thompson later expands upon it – we will highlight further strengths of PEMS.

So, what is the minimal self that is going to be argued for here? Let me identify the set of conditions which constitute the Phenomenological-Enactive Minimal Self, so that we can see what will emerge by the end. The PEMS, as I will present it, consists of the following:

1. The minimal self is the experiential subject; the minimal sense of self is present whenever there is self-awareness. It is the subjectivity of experience, the sense of

mineness, or *givenness* which our experiences contain. In the past phenomenologists like Matthew Ratcliffe and Dan Zahavi have given accounts of what some of these phenomenological structures are, but they haven't gone far enough. Although they have provided us with important insights, they haven't done enough – there are gaps that have to be filled which explain what the structures are that explain the phenomenological 'feelings of being.' The PEMS theory will layout the structural components which explain the phenomenology.

2. The phenomenological part of PEMS is formed by a bodily and dynamic integration of sensorimotor coupling and affective experience. It is, ontologically speaking, the lived body – the body in enactive engagement with the environment.³³ Evidence and models from developmental psychology, affective neuroscience and other areas will be interpreted through an enactive lens, and this will give us the additional conditions and structures we need to understand the PEMS. There have been a few enactivists that have explored portions of this territory (e.g. Evan Thompson and Giovanna Colombetti). What PEMS will do is to identify implications for the role enactivism can play in supporting phenomenology to see what implications this has for minimal selfhood.

We will see by the end of this project that although there is a narrative self (however one might want to conceive it); it is only possible because there is a constant, non-conceptual, ongoing, pre-reflective self-awareness that is built into our very experience. Viewed from different interpretive angles, the minimal self is real, because it *is* the embodied subject. It is the embodied subject which anchors and forms the foundation for the narrative self, which emerges from it, and which is continually influenced by it. It is the subject enactively engaged with others, dependent on sensorimotor processes and affects. We have an identity, but it emerges from relational and dynamic processes. The *mineness* or sense of ownership is what constitutes the PEMS. There is a whole dimension of *ipseity* that hasn't been systematically examined or explored, and it is hoped that the account of the Phenomenological-Enactive Minimal Self that will be presented here will provide us with a new perspective from which to answer the question of whether a 'self' exists, what it is, and how it emerges.

³³ Gallagher, Shaun. Brainstorming: Views and Interviews on the Mind. (UK: Imprint Academic, 2008), 235. Zahavi. Subjectivity and Selfhood. 146. Gallagher. Phenomenology. 80.

Part I: The Bodily Self: The Body - Its Function and Meaning

Chapter 1: The Body's first encounter with the world: a look at Infants.

"...it is clearly in action that the spatiality of our body is brought into being...by considering the body in movement, we can see better how it inhabits space."³⁴

If we are to function in the world and understand what lays the foundation for the *sense* of self which we have (the sense of *mineness*, or *givenness*), the investigation into infants which we will explore in this chapter will provide one of the key components of the *foundational* - or minimal - self with which the narrative self later becomes associated. The key component of the minimal self – and the origin point of *mineness* – is bodily motion. Communication, object perception and manipulation all need a point of origin for their development and it will be argued that this is in bodily motion; and it is by examining these three phenomena that that bodily point of origin will be exposed.

Recall this quote from Merleau-Ponty from the introduction:

"In so far as I inhabit a 'physical world,' in which consistent 'stimuli' and typical situations recur...my life is made up of rhythms which have not their *reason* in what I have chosen to be, but their *conditions* in the humdrum setting which is mine. Thus there appears round our personal existence a margin of *almost* impersonal existence, which can be practically taken for granted, and which I rely on to keep me alive."³⁵

Merleau-Ponty's key claim in this passage is that the 'rhythms' of life are not tied to reasons we've chosen, but rather the everyday 'conditions' and situations which are ours. Although this entire project will be touching on these ideas from different perspectives, this chapter will show how the 'rhythms' of these settings are based in bodily movement, exploration and imitation by the infant. We will see that infant movement creates for the infant that 'almost impersonal existence' which 'can be practically taken for granted' in adulthood. This 'almost impersonal existence' (note the qualifier 'almost') which Merleau-Ponty speaks of is a pre-reflective element of the minimal self I will be arguing for. It will be shown that although it has been taken for granted in the past, an examination of the infant's

³⁴ Merleau-Ponty. *Phenomenology*. 117.

³⁵ Merleau-Ponty. *Phenomenology*. 96 (emphasis original).

embodied and situated cognition is a foundational element in the emergence of selfhood, and can actually say something interesting regarding our phenomenological sense of identity. This chapter will demonstrate how this Merleau-Pontian idea comes to be realized.

The purpose of this chapter is to demonstrate via the way infants in their earliest development begin to form their understanding of objects and subjects, that the point of origin for the Phenomenological-Enactive Minimal Self is through sensorimotor development and the interaction of the body with others and the environment. Within the process of understanding how objects, our bodies, and other subjects inhabit and navigate in space and through movement, we will see the earliest and minimal forms of a phenomenological and enactive minimal self emerge. Movement does not simply provide us with a sense of spatial location and understanding, it also provides us with something *meaningful* at a basic, or primitive, level, and this lays the foundation for our later conscious understandings of subjects and objects. The emergence and growth of self in an infant (as well as the adult) is not merely the *product* of many phases of development, but is rather a *process* enacted through this animate movement. Before any sophisticated mental processes have formed and developed which involve complicated abstract thought and language use, infants must develop a meaning and understanding of objects and events through the various sensorimotor capacities of their bodies. It is through these early interactions with their environment that they learn the meaning of the objects and events which make up the world. The *meaning* and *understanding* of itself, other objects, persons and the environment are instrumental to the earliest forms of *ipseity*. Much of this has been taken for granted, but it will be shown that this humdrum setting which the infant finds itself is essential for creating the first sense of *mineness*.

An underlying theme which will be appearing throughout this chapter is the importance of experiments which look at how infants perceive objects, how they learn to move about, and in what their earliest forms of communication consist. Although these three ideas may seem to consist of distinct ideas or approaches (such as communication versus object manipulation, or communication versus bodily motion), we will see that these instead develop very closely together and rely on each other to lay the foundation of the self. Philosopher Mark Johnson, drawing on work by Eleanor Gibson and Anne Pick, says that infants must master these three types of developmental tasks if they are to function fully in

the physical and social environments in which they find themselves.³⁶ These three overlapping stages are:

1. Communication. From the time infants enter the world, there are some rudimentary capacities within them to allow communication with other people.
2. Object perception and manipulation. At four months the infant develops a sense that the world is filled with objects which they can manipulate and use for certain purposes.
3. Bodily motion. After six months, their locomotive abilities provide them with a deeper meaning; the objects they interact with are now used to open up new possibilities for reaching goals and for realizing intentions they may have.³⁷

These are not fully developed psychological capabilities, instead, this bodily meaning-making is pre-theoretical, pre-linguistic, pre-personal, and pre-conceptual, and forms the underlying foundation for the more psychologically sophisticated linguistic and personal aspects of being which we deal with as adults. Just as importantly, they are not capacities which we will do away with once we mature – some of these will remain with us into adulthood functioning in the background, underlying our reasoning and abstract thought.³⁸

Developmental psychologist Daniel Stern holds a similar view, arguing that the infant *experiences* the process of organization as it emerges through bodily interaction, along with the results of this interaction.³⁹ Infants in his view are 'predesigned' to seek out learning opportunities, and since these learning activities must have a point of reference, or a point of focus, he argues the body is this reference point. The body, through motion, object perception/manipulation, and 'primitive' communication - which involves gestures and sounds – creates and constructs these earliest learning opportunities. The various qualities of feelings which the infant experiences - both within, and from the behaviour of others - are what Stern calls *vitality affects* - "the infant is immersed in... 'feelings of vitality.'"⁴⁰ It is the pattern and flow of lived experience which precede any formal or abstract acts. And again, these are not capacities which we leave behind; as Johnson says (in support of Stern's vitality affects) "we only extend and build upon them." "Vitality affects are meaningful to us at the most

³⁶ Johnson, Mark. The Meaning of the Body. (IL: Chicago, 2007), 35.

³⁷ Johnson. Meaning. 36.

³⁸ A deeper look at these background processes and how they operate in adulthood will be discussed in later chapters.

³⁹ Stern, Daniel N. The Interpersonal World of the Infant. (NY: Karnac, 1998), 45.

⁴⁰ Stern. Infant. 54.

primordial levels of our bodily understanding of our world and our experience."⁴¹ Vitality Affects – with the body as the locus – are where those first moments of phenomenological *mineness* appear at this pivotal time, laying the groundwork for all that is to come. The experiments done with infants we are about to look at will bear out this view. We begin with experiments which shine light upon early infant object perception and bodily motion. This will make clear that communication and object perception/manipulation involve preconceptual *mineness* through bodily movement and interaction.

In one experiment cited by Stern, three-week old infants were blindfolded and given a pacifier to suck on. The pacifier was then removed and placed next to another with different surface properties. The blindfold was then removed. The infant, after looking at each of the pacifiers, focused most of their attention on the one they had just sucked (75 percent of the time).⁴² Through the physical experience of touch (sucking), the infant was able to make a visual identification; this is an early form of (touch-type) object perception and understanding.

Andrew Meltzoff and Keith Moore argue that newborn infants begin with some ability to grasp other people and the fact that these other people are like themselves.⁴³ Their research presents a two-pronged approach to infant embodiment and the development of a sense of self which encompasses: (a) an infant's understanding of what an *object* is, and (b) an infant's developing understanding of what a *person* is.

In regards to an infant's understanding of object identity, Meltzoff and Moore see the infant as going through three different levels of understanding. The first stage of object understanding is restricted to objects which exist in a steady-state in the visual world, that is, their understanding of an object is based entirely on what they see either as it sits at rest, or if it is in a steady trajectory of movement without getting obstructed in their visual field. This occurs during the first four months of life. For the second level of object identity – which lasts from 5 to 8 months – an understanding of object transformation is achieved. This allows for objects moving and coming to rest, and others that are at rest and beginning to move. The third level is from 9 to 18 months. At this level, the infant can maintain identity of the object even if it disappears, or is occluded.⁴⁴

⁴¹ Johnson. *Meaning*. 44, 45.

⁴² Stern. *Infant*. 47-48. Johnson. *Meaning*. 42.

⁴³ See Meltzoff, Andrew N. and M. Keith Moore. "Infants' Understanding of People and Things: From Body Imitation to Folk Psychology." *The Body and the Self* Eds. Jose Luis Bermudez, Anthony Marcel, and Naomi Eilan. (MA:MIT, 1995).

⁴⁴ Meltzoff and Moore. "Infants." 45.

What is important about this development of understanding the identity of objects is that different criteria are used for different sorts of objects to understand and maintain numerical identity. This is important because in the words of Meltzoff and Moore: an “infants’ developing grasp of the nature of objects profoundly influences their idea of persons.”⁴⁵ What are these different criteria that are used to grasp numerical identity? In the process of an infant's ability to understand the features, trajectory, and permanence of an object, the infant goes through a developmental progression of understanding that begins with what Meltzoff and Moore call 'proto-objects' in level one and two. A 'proto-object' as defined by Meltzoff and Moore, is a more fragmented, or incomplete, understanding of what an infant sees or understands of an object in comparison to what an adult perceives; these 'proto-objects' lack the complete set of properties which an adult would assign to them.⁴⁶ It is only in stage three that the infant achieves a full – adult – understanding of the actual object.⁴⁷ It is through a series of cognitive re-structurings that the infant develops a more robust understanding what it is viewing, and thus reaches the understanding of an object in its entirety. However, the problem of identity applies just as much to people as objects, for people – just like objects – are traceable across areas of space and over periods of time. So in this regard they are quite similar. On the other hand, when it comes to the movements and reactions of people, things can be far more complex than when one is just dealing with inanimate objects. How do children respond to this?

In regards to an infant's understanding of what a person is; Meltzoff and Moore's research in this area focused on an infant's imitating facial expressions of adults they had seen. This look into how an infant interacts with adults begins to take us away from object perception and manipulation, and into (pre-verbal) communication. Meltzoff and Moore learned that infants as young as 42 minutes to 72 hours old showed the ability to successfully imitate a facial expression.⁴⁸ In a different research project, they focused on infants in age from 12 to 21 days old. In this study, four adult gestures were made: protruding the tongue, opening the mouth, protruding the lip, and moving a finger.⁴⁹ The results of this study showed that initially the imitations were not exact copies, but over time the infants made corrections. Meltzoff and Moore interpret this as being goal-directed, and the intended actions (in a very

⁴⁵ Meltzoff and Moore. "Infants." 44.

⁴⁶ For example, adults are aware that that from one moment of time to another an object may undergo a shift in its appearance or features (e.g. it's shape or colour). An infant, on the other hand, has a less holistic or complete understanding of featural change (thus the use of the term proto-object). The full understanding of an object is developed in stages, as we've seen.

⁴⁷ Meltzoff and Moore. "Infants." 46.

⁴⁸ Meltzoff and Moore. "Infants." 49.

⁴⁹ Meltzoff and Moore. "Infants." 50.

primitive sense) are different from the consequences.⁵⁰ The infants were, in effect, *selective* with respect to which aspects of the stimulus they would imitate (some infants might copy an adult opening their mouth by opening theirs quite large, and others would make a small mouth opening, but hold it for a longer duration). The infants also seemed *creative* in their imitation (for example, if they saw an adult tongue protrude out from the side of the mouth, they sometimes would imitate by protruding their tongue out to the side, and other times would protrude their tongue out straight and then turn their head to the side). There is also what Meltzoff and Moore called *volition*. Here the infant may perform a gesture that it remembered from a previous encounter, rather than the one they had just seen.⁵¹

The view that there is a pre-verbal type of communication and imitation between infants and their caregivers is supported by others as well. Mechthild Papoušek says in regards to research that had been done with mothers and their infants that "infants had a capacity and intrinsic motivation to detect and control intrinsic events and build up expectancies; they accommodated and finely attuned their motor acts to the requirements of the task in a goal-directed manner; they invested considerable efforts in restoring disrupted reinforcement rules when expectations were violated, and protested or withdrew when they were unable to solve the problem."⁵² The everyday interactions between an infant and its caregiver are built from a dynamically adjusted group of categories which include the infant's affective states, behavioural dispositions, interests, and motives, along with how its movements and expressions are being mirrored or understood by its caregiver.⁵³ Through the imitation of oral and manual gestures between the infant and adult, they come to act together in "intersubjective emotional relatedness," this is a component of what Stern (cited above) referred to as 'vitality affects,' or 'affect attunement.'⁵⁴ For Papoušek, there are two main elements that play a role in early infant communication, one is the adaptive imitative elements which help form the basis for intersubjective social communication that we've just looked at, and the second is mirror neurons and their ability to provide a neurobiological basis for perception, action, and affect sharing (mirror neurons will be examined in the next chapter). Mirror neurons "may provide the neurobiological basis for the phenomenon of newborn imitation, of mutual facial and vocal mirroring, immediate coupling of perception and action,

⁵⁰ Meltzoff and Moore. "Infants." 51.

⁵¹ Meltzoff and Moore. "Infants." 52.

⁵² Papoušek, Mechthild. "Communication in Early Infancy." (Infant Behavior & Development, 30, 2007), 259.

⁵³ Papoušek. "Communication," *ibid*.

⁵⁴ Papoušek. "Communication," 260.

and of early intersubjective affective sharing.”⁵⁵ Over the long-term, the human interaction between child and caregiver provides feedback which provides the infant with ways to adapt to changing situations and the ability to expand its repertoire of (re)actions.

We next look at experiments which deal with challenges to an infant's mobility and bodily motion. The first experiment deals with infants that were confronted with a change in slope as they moved. In this experiment, infants at age 14 months were placed in walkers, or were allowed to crawl, and were placed near slopes of various grades. Those in walkers were cautious of slopes of 20° or more, which they either refused to descend, or else attempted to slide down. If they were crawling, however, they were more confident.⁵⁶ As the infants were confronted with these dilemmas, they showed an increase in knowledge and learned to avoid the steeper slopes. Interestingly, when they switched from a crawling to a walking mode of mobility, this knowledge did not transfer - they seemingly had to learn it all over again through experience. This is in part because visual associations have to be made anew, as well as the fact that a new series of muscles needed to be utilized to engage in ambulation and maintain balance and posture. Esther Thelen and Linda Smith have argued that the knowledge gained by the infants was not 'domain-general' knowledge, but instead developed through the actions they performed, and was action-specific.⁵⁷

Another example has to do with the stepping motions of an infant. An infant, when it is held suspended above the ground, is able to perform relatively well-coordinated stepping motions, yet when it reaches its second month this knowledge seems to get lost or disappear. Then, between the 8th and 10th month, as the infant is learning to walk on its own and support its own weight, this form of motion reappears. In that first stage the stepping is involuntary (some have called it reflexive), and in the second instance the stepping is more intentional.⁵⁸ Yet in between this time period when they are not walking, if an infant is placed and held on a treadmill, it is able to coordinate and alter its stepping pattern to changes in the treadmill's speed.⁵⁹ Andy Clark thinks this is evidence against a 'grand plan, single factor' view, where some central source provides a gradual development of mobility knowledge over time. He says: "The developmental pattern is not the expression of an inner blueprint. Rather, it reflects the complex interplay of multiple forces, some bodily (leg mass), some mechanical (leg

⁵⁵ Papoušek. "Communication," *ibid.*

⁵⁶ Thelen, E., and L. Smith. *A Dynamic Systems Approach to the Development of Cognition and Action*. (MA: MIT, 1994), 219. Clark, Andy. *Being There: Putting Brain, Body, and World Together Again*. (MA: MIT, 1997), 37.

⁵⁷ Thelen and Smith. *Dynamic Systems*. 220.

⁵⁸ Thelen and Smith. *Dynamic Systems*. 10. Clark. *Being There*. 40-41.

⁵⁹ Thelen and Smith. *Dynamic Systems*. 12.

stretching and spring-like actions), some fully external (the presences of treadmills...), and some more cognitive and external (the transition to volitional - i.e., deliberate - motion)."⁶⁰ These two studies seem to show that the infant's body in early life has to adjust to environmental challenges as it meets them, and that these challenges are met - and motor knowledge is developed - through physically confronting and dealing with each of these context-dependent challenges as they arise. The studies indicate how the infants begin to acquire a greater mastery of their bodily self and how they fit within the world.

What do the studies that we have examined thus far have to say regarding differentiation of the minimal self and an infant's learning about themselves and others? Colwyn Trevarthen and Vasudevi Reddy provide a good summary of the results in a way which tie-in the original three developmental tasks we looked at that infants must master (communication, object perception/manipulation, and bodily motion) with how the minimal self emerges:

- Between the 8th and 16th week of gestation the foetus begins to differentiate between its hands, face, and other senses. The "brain systems and sensory and motor structures of the [embryo] body...become active and responsive to the environment...before it senses anything." "The developmental rule is that intentions are mapped out inside the embryo brain and body, and then elaborated in sought-for engagement with the environment."⁶¹
- At the 24th week of being in the womb, it can react to the touch or movement of its mother, or a twin.
- By the 32nd week in the womb, the face, mouth and hands become active.⁶²
- During the first 8 weeks after birth, the infant is learning its initial regulation of biological processes and of stimuli. The baby has certain core concepts or strategies for learning and adapting to perceived phenomena. Infants and adults develop a co-consciousness through feelings of sympathy. Imitation of face and hand gestures emerge, and the infant is motivated to know other human beings and their emotions in a related way.⁶³
- After 4 months infants have reached an ability to track motions and watch displays in a more complete way similar to adults. Although reciprocal exchange between the

⁶⁰ Clark. Being There. 42.

⁶¹ Trevarthen, Colwyn, Vasudevi Reddy. "Consciousness in Infants." The Blackwell Companion to Consciousness Eds. Max Velmans and Susan Schneider. (UK:Blackwell, 2007), 51 (Figure 3.4).

⁶² Trevarthen and Reddy. "Consciousness in Infants." 52.

⁶³ Trevarthen and Reddy. "Consciousness in Infants." 45-46.

infant and caregiver began earlier, by this point infants are more socially self-other aware (commensurate with the story laid out by Meltzoff and Moore).⁶⁴

- At 18 months language and expressive thoughts develop; this is not just about perceived objects, but about a shared sense of participation.⁶⁵

Trevarthen and Reddy think there is a 'primary consciousness' that is manifested in an animal. It begins in the animal's body as a way to coordinate movement as it is engaged in the world. These bodily anticipations and movements cause the brain to project feelings onto the objects and properties which are encountered. This helps determine what is, or is not, learned.⁶⁶ In regards to humans specifically, their view can be summarized as follows: Consciousness is in formation in the embryo and early foetus. This consciousness becomes latent in the late foetus as it engages more with its surroundings. Through active life as a newborn, consciousness becomes nascent as it explores things outside its body and encounters the emotions of other human beings. As the infant develops collaborative relationships, consciousness continues to develop and emerge. And once language arrives and formal education takes place, consciousness becomes reflective or transcendent, in that we now see the emergence of culture and the symbolic arts.⁶⁷ This quick bullet-point run-through of the emergence of the minimal self can be further elaborated upon by examining the more detailed stages that Daniel Stern has of the developmental layers of the self which accumulate in the infant as it ages.

Daniel Stern's view of the development of the self in infancy is worth considering at this point, in part because we will be looking at it again later when we delve into more mature, adult, and social, theories of the self. His theory of self involves a layered model that argues for accumulation of senses of self (starting with the most basic, there is the emergent self, then the core self, core self-with-another, intersubjective self, verbal self, and finally, the narrative self; we will examine each of these categories more thoroughly in a moment). In his scheme, none of the previous layers disappear; rather, they continue to interact with the other layers as they emerge.⁶⁸ Of these layers, the ones most relevant for the current discussion are the two most basic: the emergent self and the core self. Although the emergent self does not sound at first as the proper starting point for a sense of self – the point is that the self is *emerging* – this is important, as the purpose of signifying it with the word 'emerging' is to show

⁶⁴ Trevarthen and Reddy. "Consciousness in Infants." 47.

⁶⁵ Trevarthen and Reddy. "Consciousness in Infants." 52.

⁶⁶ Trevarthen and Reddy. "Consciousness in Infants." 41.

⁶⁷ Trevarthen and Reddy. "Consciousness in Infants." 54.

⁶⁸ Stern. *Infant*. xi-xii, xxv.

that this very early form of self is based on a *process*; a sense of self is 'emerging' and hasn't 'arrived' yet.⁶⁹ It is through repeated and small interactive patterns with other objects and persons that a 'way-of-being' is developed. He describes this 'primary consciousness' as nonverbal and consisting of 'present moments' and the 'now.' The signals that are received from the environment are not necessarily consciously attended to, and may not enter into reflective awareness; it is, as he poetically describes it: "the continuous music of being alive."⁷⁰ The key idea from this theory of Stern's is that "primary consciousness is the yoking together, in a present moment, of the intentional object and the vital background input from the body."⁷¹ The infant is literally discovering itself through movement. The 'core self' which follows the 'emergent self' (along with the other categories of self which follow after that), can be given more specific names because at the points at which they arrive, the infant has reached some specific mile-stone which can be labelled and quantified much better.

Let us look at Stern's breakdown of the layers of self in more detail; for this will be important in seeing how a minimal self relates to a later narrative self. Additionally, and without necessarily endorsing all of Stern's picture of the layered self, I want to draw out some important elements which are relevant and applicable to the Phenomenological-Enactive Minimal Self (PEMS). Stern's model involves layers of self which emerge and accumulate on top of each other. These different layers don't replace the previous layers; rather, they continue to interact with each other. His layered account is structured as follows:

1. *Sense of Emergent Self.* Of all Stern's layers of self, this and the next one are perhaps the most important to my project of establishing a Phenomenological-Enactive Minimal Self. The idea of the self being 'emergent' is important for the PEMS, for as we saw above, it says that self is an *emerging* process of organization, a process of organization which allows the other elements of self that come after it to emerge. This first element in the development of the self emphasizes that the organization that comes into being is a *process*; Stern says:

"the emergent sense of self has to do with the experience of this process...[This primary consciousness] is not self-reflective, it is not verbalized, and it lasts only during the present moment that corresponds to 'now'...[t]he

⁶⁹ So is the emergent self an actual self? Yes and no. We'll see in a moment that although the emergent self provides us with the process for a development of selfhood, we'll need another component to allow it to fit within the minimal self that I am seeking, a component which we can get by bringing in Stern's core self.

⁷⁰ Stern. *Infant*. xviii.

⁷¹ Stern. *Infant*. *ibid.*

body is never doing nothing [...] All of these body signals come from the self – an as-yet unspecified self. Such signals need not be attended to. They need not enter into awareness. Yet they are still there in the background. They are the continuous music of being alive.”⁷²

Although his idea of process is important for my project, as well as the fact that these body signals lie in the background and aren’t attended to, we also see here that Stern is speaking of ‘present moments that correspond to ‘now’’ and how this is an ‘unspecified self.’ Thus, although he poetically refers to this process as ‘the continuous music of being alive,’ he seems to really be talking about individually disconnected notes which pass from moment to moment, rather than being continuous. This first layer of the self that Stern talks about is perhaps better seen as the *becoming* of the self; the self is not there yet; we are in a grey area. We won’t get the continuity of being alive until we have the core self next; it is with the arrival of the core self that the notes become music. The idea of there being an unattended awareness (or what we will call pre-noetic awareness) will be the focus of chapter 3, and the idea of background will be looked at more closely in chapter 3 along with chapters 6 - 8, when we look at Antonio Damasio’s idea of ‘background feelings’ and Matthew Ratcliffe’s idea of ‘existential feelings,’ but for the moment we can see the first felt experience of self as Maxine Sheets-Johnstone puts it (utilizing Stern’s ideas), “anchored in a dynamics of aliveness.”⁷³ Notice, also, that I’ve been speaking of a theory *of* self, whereas Stern speaks of a *sense* of self. I want to argue that this emergent – or minimal – self is the most basic component for all that arrives later and builds on it, and thus should be considered part of a theory of *a* self, and moreover, because there is a phenomenologically felt experiential quality to this minimal self (the *mineness* or *givenness*), that it is *also* a *sense* of self – the sense that this experience is *my* experience. So I am taking Stern’s idea of a *sense* in this case – which for him makes up his ‘dynamic forms of vitality’ – and having it play an additional role as well.

2. *Sense of Core Self.* This core self encompasses self-agency, self-coherence, and self-continuity.⁷⁴ This layer of Stern’s – along with the emergent self we just

⁷² Stern Daniel N. The Interpersonal World of the Infant. (NY: Karnac, 1998), xvii-xviii.

⁷³ Sheets-Johnstone. The Corporeal Turn. 47.

⁷⁴ Stern. The Interpersonal World of the Infant. xix.

inspected – can be brought together and broadly endorsed by PEMS, for it shows that in spite of all this chaotic change in the vitality affects and background feelings, there is still a feeling of ‘sameness,’ a feeling that it is *me* that is having this experience. At this layer, at “each time the infant is confronted with herself at moments of primary consciousness, she feels the ‘same’ by virtue of the invariants created from her vital background feelings and her vitality affects and their expression.”⁷⁵ The core self supports the PEMS view by showing that there is a sense of continuity that exists over time in a process that never sits still or comes to an end in spite of being (again using Sheets-Johnstone’s terminology) “fundamentally *animate* and *animated*.”⁷⁶ The infant enactively generates and maintains itself, and in turn enacts or bring forth its own patterns of meaningful activity. The sense of phenomenological *mineness* requires continuity.

We are also seeing with the sense of emergent self and core self not only the beginnings of phenomenological mineness, but also of the embodied/embedded/enactive/extended elements of the minimal self. Recall (from the introduction) that the *embodied* view states that bodily structures and bodily processes in part make up mental processes, that the *embedded* view states that mental processes work in tandem with and exploit environmental structures, and that the *enactive* view says that our cognitive processes are not simply composed of neural processes, but also things that we as the organism do more generally in the reciprocal way in which we act on the world and it in turn acts on us (a type of mutual modulation). The interaction and exploration of the infant with its caregiver and the world in its peri-personal space has demonstrated key elements of 4E structures as applied to the minimal self.

3. *Sense of Core Self-with-Other/Sense of Intersubjective Self*. Because of research in mirror neurons, we are getting a clearer idea of what and where the mechanisms are which allow us to synchronize our movements with others who are engaged in movement (see the next chapter for further details on this). Notice again, however, this intersubjectivity is based on movement. We engage in thinking in movement, and our understanding of other things and persons is similarly based

⁷⁵ Stern. *The Interpersonal World of the Infant*. *ibid*.

⁷⁶ Sheets-Johnstone. *The Corporeal Turn*. *Ibid* (emphasis original). We will be taking a closer look at Sheets-Johnstone’s terminology in chapter 4.

on movement.⁷⁷ According to Stern, this emerges at around 9 months of age for the infant.⁷⁸ Stern's account of intersubjectivity is much richer than what I am drawing upon for the PEMS view; I am looking at an earlier and more primal type of intersubjective self (refer back to the Meltzoff and Moore data of infant/caregiver interaction that takes place literally hours after birth). Thus, for my purposes it is the emergent and early core selves (#1 and #2) – where I am also including a more primal intersubjectivity – which are most important for my project. Stern's category of the *Sense of Core Self-with-Other*, with a richer intersubjective account is something which comes later as we begin to cross the conceptual bridge that connects the 'minimal' and 'narrative' selves. As such, it is part of what emerges *from* the self as conceived in my PEMS theory.

4. *Verbal Self/Narrative Self*. This is the ability we have of telling a narrative about our experiences. Stern sees this as a new capacity that “opens the way to completely new domains of the self.”⁷⁹ It is a “process of construction [that] acts as a sort of laboratory in which a narrative self is forged, mistakes are corrected, elaborations added, and adjustments fine-tuned.”⁸⁰ Stern sees the language aspect of this sense of self emerge at around 18 months, and the narrative aspect at around 3 years of age. Again, this is indeed an important aspect of determining who we are and what we become – and it is an area about which much discussion has taken place in recent years – but it is not part of the minimal self of which I speak. I want to argue – and I think the evidence bears witness to this view – that by the time these verbal and narrative aspects of self come about, ‘who we are’ has already to a large extent been established; and indeed once the verbal/narrative self comes onto the scene, there will be a constant interplay from then on between the minimal (i.e. emergent and core self in Stern's terminology) and the verbal/narrative self. There is much more to be said in regards to this view, but the upcoming chapters will deal with this.

What we should be able to see from this, is what we might call a processual philosophy. It is a process metaphysics which seems to best describe the development of the human being (and as we will see in chapter 5, other animals in general). The self is a

⁷⁷ We saw the beginning of this with our examination of Meltzoff and Moore, and Trevarthen and Reddy. We will see this developed in much greater detail in chapters 2-5.

⁷⁸ Stern. *The Interpersonal World of the Infant*. xx.

⁷⁹ Stern. *The Interpersonal World of the Infant*. xxiv.

⁸⁰ Stern. *The Interpersonal World of the Infant*. xxv.

constantly changing process of organization, this processual structuring allows the individual to create certain unchanging aspects which mark certain unique elements of that particular self (which we will see in chapter 3), along with enacting and bringing forth the minimal phenomenological meaningfulness that constitutes *ipseity*.

We've seen Trevarthen and Reddy's summary of this early development of self, as well as Stern's; so how does this fit in with the Phenomenological-Enactive Minimal Self which I am arguing for? Several things stand out. First, we've gained our first insight into what the PEMS looks like. The body serves as the focal point or reference to which knowledge and perception of objects first occur for this emerging minimal self. From those earliest moments while still in the womb, the foetus is in the process of bodily learning, which sets the stage for the appearance of phenomenologically felt *mineness*. Secondly, we saw a hint of how the more robust narrative self emerges as well. For, after the child is born, communication occurs, where the very first feelings are developed through bodily imitation and coordination. These intersubjective interactions allow the child to begin to master an understanding of its own body, of objects, and of others. The phenomenological sense of personal *mineness* and *givenness* has its beginnings during these early bodily explorations and interactions (i.e. in 'intersubjective emotional relatedness' and 'affect attunement'). Through the attempts the infant makes in crawling, walking and interacting with objects in its environment it develops bodily understanding of itself and its worldly being. This brings up a third point – which is that this early engagement between the infant and its caregiver presents us with some clues as to what the self might consist in. As Papoušek pointed out, mirror neurons may provide an immediate correspondence between the motor and affective systems, but it is the interaction between the infant and other which provides the ability to adapt to different situations in the long-term. We saw that this bodily interaction is mostly taking place at the pre-linguistic, and pre-personal, sensorimotor level. But this doesn't mean that psychological phenomena can simply be reduced to some type of physical cause, for affects (emotions, feelings and mood) play just as important a role as the sensorimotor (see chapters 6-9). For a very long time emotional content was either neglected, or explained away, Stern's so-called 'vitality affects,' or Papoušek's 'intersubjective emotional relatedness,' show that some type of sought-for *meaningfulness* is there from the beginning as well, tied to the sensorimotor. As Papoušek showed, intersubjective emotional relatedness arises from imitation of such bodily activities as oral and manual gesturing between the infant and caregiver as they attune themselves in their shared activities. This idea was shared by Stern, giving rise to affective attunement. Chapter 6 will develop in more detail the idea that affects are bodily based.

Although the primary purpose of this chapter was to look at the 'birth' of the PEMS, we saw that the narrative self was also peaking through. This should give us pause for thought regarding the difficulty of trying to break up the self into distinct categories. As we continue down this path of examining the self connected to the arguments of this thesis, we will see different scenarios where the importance of the body and the importance of affects underlie the full and complete self. The next chapter on mirror neurons will provide us with a more specific look at how a certain neurobiological mechanism plays its part in generating a bodily and minimal self.

Chapter 2: Mirror Neurons: A Neuronal look at Bodily Meaning and Understanding.

"The sense of the gestures is not given, but understood, that is, recaptured by an act on the spectator's part...The communication or comprehension of gestures comes about through the reciprocity of my intentions and the gestures of others...It is as if the other person's intention inhabited my body and mine his. The gesture which I witness outlines an intentional object. This object is genuinely present and fully comprehended when the powers of my body adjust themselves to it and overlap it."⁸¹

Having just looked in close detail at Stern's breakdown of the different layers of self and seen how they fit within my PEMS theory, we noticed that our understanding of the core self in its immediate understanding of others incorporates the insights we've gained from mirror neuron research. Mirror neurons could play the role Stern wants for connecting the core and narrative self, as well as illustrate one of the key points of the Phenomenological-Enactive Minimal Self (PEMS) of placing intersubjectivity earlier and emphasizing a more primal notion that we saw in the work of Meltzoff and Moore on newborn infant interaction and communication with caregivers (and Papoušek's idea of there being an 'immediate resonance' between child and adult), as well as explaining how we can lead fluidly and processually from intersubjective emotional relatedness (something at the PEMS level) into intersubjective/social relations at the narrative level. Mirror neurons also emphasize the importance of movement; or the corporeal-kinetic aspect of self (again, we can think back to the previous chapter and our examination of infant object perception and manipulation). Mirror neurons are an illuminating example showing one of the places where some of the forms of vitality may be found. Let us consider some of the details.

Traditional views in infant studies thought that infants were a 'blooming, buzzing, confusion' (to use a quote from William James), and the movements that infants made seemed to be random and lack direction or purpose. Modern approaches to infant studies show that there is more 'going on' in the infant than previously realized. New research on what are called 'mirror neurons' shows promising ways to further assist us in understanding this subject better. We saw in the previous chapter how Mechthild Papoušek stated that the mirror neuron system provided an 'immediate resonance in...corresponding motor and affective

⁸¹ Merleau-Ponty. Phenomenology. 215.

systems,' and that human interaction between the child and caregiver provided the long-term feedback which gave the infant the capability to adapt and change to situations, and expand its repertoire of actions. Thus, that first, immediate reaction comes from a neuronal response to a situation, but the interaction between infant and caregiver over time expands and provides more and varied series of situations to which the mirror neurons can react. The interactions in effect expand the repertoire of the mirror neurons. We looked at the second area in the last chapter, now we are going to look at the first area. The two main things that are going to be emphasized are, one, responding to another's action has a pre-reflective basis to it, and, two, that this understanding of action is not mere simulation, but is a direct response to a *situation* which relies on *intersubjective* interaction and an 'understanding' of bodily action. The argument being that the situation in which we find ourselves is one which involves the bodily subject actively generating meaningful patterns of understanding from observing and understanding others' bodily movements. We will see that the mirror neurons are yet another key to our desire to understand what makes up the PEMS at a primal level.

The classical approach to perception was one where a perception leads to cognition, and this in turn leads to movement. However, work done in the 1990's by scientists in Italy, found that there are neurons – so-called mirror neurons – that are activated both when an individual performs an act, and also when the person observes the act being performed by another; these acts "are *goal-directed* and *not merely movements*."⁸² Their argument is that perception is not outside of cognition and movement, but is directly "embedded in the dynamics of action."⁸³ Their key claim is that the brain doesn't simply *act*, it *understands*, and it does so in a way which is pragmatic in nature and is pre-conceptual and pre-linguistic in its way of understanding. Thus the divisions that have been traditionally made between perception, motor, and cognitive processes, is mostly an artificial construct. Corrado Sinigaglia, one of the proponents of what the discovery of mirror neurons can add to our understanding of action, says: "the functional properties of MN's [mirror neurons] allow us to gain insight into the basic forms of action understanding that are 'below' and 'before' any deliberate mentalizing."⁸⁴ What we will do next is to delve in to what mirror neurons can tell

⁸² Rizzolati, Giacomo, Corrado Sinigaglia. Mirrors in the Brain: How Our Minds Share Actions and Emotions. (UK: Oxford, 2008), xi (emphasis original). Much of the work was performed on macaques monkeys, there they found specific, individual neurons activated, whereas in humans it seems to be systems of neurons.

⁸³ Rizzolati and Sinigaglia. Mirrors. xi.

⁸⁴ Sinigaglia, Corrado. "Mirror Neurons: This is the Question." (Journal of Consciousness Studies, 15, 2008), 72-73.

us in general, and then we will apply this to what we discovered about infants and PEMS in the previous chapter.

Mirror neurons code for motor *acts*, not *individual movements*. When a monkey watches someone reach for something with their hand and move it toward their mouth, the observation of this movement triggers the mirror neuron in the monkey, this is regardless of whether this was done with the right or left hand, whether the mouth was opened or closed, or whether the hand actually picked anything up when it reached for the object and moved toward the mouth.⁸⁵ Mirror neurons also become active when certain things occur within a specific space around us. In one instance, a mirror neuron fired when a certain part of a monkey's forearm was brushed, this same mirror neuron also fired when the hand moved close to the monkey's forearm, but did not touch it.⁸⁶ Giacomo Rizzolati and Corrado Sinigaglia argue that "objects and space seem therefore to refer to a pragmatic constitution by which the former appear as *poles of virtual acts* and the latter is defined as *the system of relations* deployed by these acts and anchored to the various parts of the body...these processes are modulated by *action*."⁸⁷ Objects, at least initially, give form to space, and the coordinated acts which we use to reach for them, are to be viewed as 'hypotheses of action' which mark the boundary and limits of our different aims and gestures.⁸⁸ The motor system, under this understanding, possesses a wealth of functions that well exceeds basic control of movement; the functional dynamics of action involve objects and the bodies of others in terms of *possibilities* as well as *actualities* of action. To clarify, the primary function of mirror neurons according to its advocates is to understand the *meaning* of motor events performed by others.⁸⁹ The mirror neuron system *perceives meaning* from the *intentional act*, this motor knowledge, for Rizzolati and Sinigaglia, is both "a necessary and sufficient condition for an immediate understanding of the acts of others."⁹⁰

So, how does this tie in with our exploration of infant consciousness? The discovery of mirror neurons seems to show that the way in which infants categorize objects and come to learn how to understand place and function within a certain space, takes place according to the motor possibilities which they offer.⁹¹ In recent studies that have been done using ultrasound, we have come to learn that unborn children are engaging in different types of

⁸⁵ Rizzolati and Sinigaglia. Mirrors. 23-24

⁸⁶ Rizzolati and Sinigaglia. Mirrors. 55.

⁸⁷ Rizzolati and Sinigaglia. Mirrors. 76 (emphasis original).

⁸⁸ Rizzolati and Sinigaglia. Mirrors. 77.

⁸⁹ Rizzolati and Sinigaglia. Mirrors. 97.

⁹⁰ Rizzolati and Sinigaglia. Mirrors. 106.

⁹¹ Rizzolati and Sinigaglia. Mirrors. 49.

motor activities, so that a very simple motor representation of space is already there in the early stages of development at this time. And this movement is not uncoordinated or unpatterned: at the 22nd week of gestation, the hand movements of the foetus show signs of being patterned and being reliant on the goal of the performed motor act. Even at this early stage of development there are early connections being made in motor centres which control the mouth and hands; these, then, become more sophisticated and versatile after birth when the infant can interact with more objects and people. At this later point in time they become more goal-directed toward the objects in the larger space around their body.⁹² One important thing we can say from looking at this data, is that the patterns of motor acts form early before we are born, and are ripe for further development once the child is born.⁹³ The other important lesson that can be drawn is that this doesn't all happen at once, but occurs incrementally and builds up in a more sophisticated way over time. After birth, for example, the infants crystalline lens is not fully operational, thus they can get a basic visual representation of only their peri-personal space, and this works only in a way which allows them to distinguish near from far; their eyes acquire the ability to converge only during the first three months, it is only after that point they get the ability to look into the distance.⁹⁴ Mirror neuron researchers hypothesize that this is at least in part because of a mirror neuron system [MNS] in infants: "an innate MNS is already present at birth, which can be flexibly modulated by motor experience and gradually enriched by visuomotor learning."⁹⁵

Mirror neurons also provide insight into infant communication and imitation as well. In the words of Rizzolati and Sinigaglia, "Imitation requires a system which controls the mirror neurons, and this system must have two functions: facilitatory and inhibitory. It must facilitate the transition from potential action, coded by the mirror neurons, to the actual execution of the motor act itself...but it must also be able to inhibit this transition. If this were not so, our system would go into loop mode; every motor act we see would immediately be replicated."⁹⁶ Rizzolati and Sinigaglia argue that a rudimentary form of this mirror neuron system is already possessed by newborns, and this can help us explain Meltzoff and Moore's data on infant imitation of tongue protrusions of adults.⁹⁷ If the imitation is not perfect, that is in part due to

⁹² Rizzolati and Sinigaglia. Mirrors. 71. Vittorio Gallese, Magali Rochat, Giuseppe Cossu, Corrado Sinigaglia. "Motor Cognition and Its Role in the Phylogeny and Ontogeny of Action Understanding." (*Developmental Psychology*, 45 (1), 2009), 106.

⁹³ Gallese, Rochat, Cossu, Sinigaglia. "Motor Cognition." 106.

⁹⁴ Rizzolati and Sinigaglia. Mirrors. 71-72.

⁹⁵ Gallese, Rochat, Cossu, Sinigaglia. "Motor Cognition." *ibid*.

⁹⁶ Rizzolati and Sinigaglia. Mirrors. 150-151.

⁹⁷ Rizzolati and Sinigaglia. Mirrors. 152.

the low amount of myelinisation that has occurred at this point in the development of their axons, and the lack of a fully developed visual system.⁹⁸

Mirror neurons may also be able to partially explain emotional exchange between infant and adult. Our ability to successfully interact with the environment and the people in it is based on the ability to perceive and understand the emotions of those people. The ability to see a look of disgust, happiness, sadness, or anger, and understand what that means, is vital to the development and survivability of us. Those like Rizzolati and Sinigaglia, who are advocates for the explanatory power of mirror neurons, think that the ability of an infant to articulate and differentiate different emotions as a way of leading to basic social skills can also be explained by mirror neurons. However, in this area they put in a word of caution: "experiencing disgust and perceiving it in others have a common neural substrate...However, more direct evidence is needed to substantiate the existence of a mirror mechanism and to guarantee that the *same region* of the insula becomes active both when we experience revulsion ourselves and when we see it expressed by others."⁹⁹

Perhaps understandably some scepticism has occurred regarding the explanatory power and details of mirror neurons. For example, Melvyn Goodale has asked whether the role of mirror neurons is to compute the goal or intention of some agent, or simply the command required to achieve a goal?¹⁰⁰ Sinigaglia responds by saying "There is no doubt that the context [the presence of certain objects] provided relevant cues. These cues however could only take on full significance in virtue of the intentional chains that belong to the animal's motor patrimony."¹⁰¹ This approach shows why there is not an 'all or nothing' approach to how these chains are selected. From previous experience we learn how to handle a hot mug of coffee; either by handling it differently than, say, a cold pint of beer, or even the possibility of deciding not to grasp the mug at all until its contents have cooled down; for not all intentions result in a future action. When I see a hot mug of coffee, this may very well cause me to wait before picking it up, this is something which is initially learned when we burn

⁹⁸ This facilitory and inhibitory function of the mirror neuron system may be able to provide us with some insights into the earliest development of the minimal self (which we will visit in Part II), however, at the very least it reminds us that the demarcation between the minimal and more robust narrative self is not completely cut-and-dry.

⁹⁹ Rizzolati and Sinigaglia. *Mirrors*. 177, 182-183 (emphasis original). Even if this doesn't hold up completely – as Rizzolati and Sinigaglia's word of caution implies – it is still an important point to keep in mind; for the exploration of emotions and feelings, and what role they play in the development of the minimal and robust self, will be one of the primary focuses of Part II. Thus, it is important to point out that there may be a connection that is played by the mirror neuron system in this area; but more on this later.

¹⁰⁰ Goodale. "Grasping Other Minds." (*Neuron*, 59, 2008), 691-692.

¹⁰¹ Sinigaglia. "Mirror Neurons: This is the Question." 83.

ourselves by picking it up too early, or by picking it up at the wrong part of the mug. After several such experiences, the chain of intentions associated with how and when to pick up a hot mug of coffee is established. Thus it is not simply a case of reducing intentions into a set of physical behaviours which occur within a certain degree of regularity under certain contexts, instead, "It is...a question of recognizing the role of chains of motor goals, and the fact that they shape the motor expertise which is at the base both of the agent's capacity to act and to represent his/her ability to understand the immediate significance of the actions and intentions of others."¹⁰² And as this "motor knowledge grows, the intentional chains that shape it become more articulate."¹⁰³

In most of the situations in which we find ourselves interacting with others, the actions which we perform and see others perform fill us with immediate meaning. This instant meaning may not rely on the complicated sets of beliefs and desires that are usually adopted to explain the attribution of intentional states to others. Although mirror neurons may not be *the* explanation for this understanding of others, the evidence that has been collected seems to show that they nonetheless seem to play a very important role. It is only in recent decades that new studies have shown us something about the infant that we didn't know before. The 'understanding' these neurons provide us with is based on a situation that the body finds itself in. This is one more step in our ability to understand the primal intersubjectivity of others as emphasized by PEMS. However, although these neurons may provide us with an immediate response to a situation, this is just the beginning; for social and intersubjective interaction is needed for further change and development. This is why Sinigaglia's discussion of our continual development of intentional action chains is important. Papoušek had said that mirror neurons provided us with 'immediate resonance' in our motor and affective system, and that interactions between the infant and caregiver provided the variety of situations and contexts which are needed for further development. Perhaps we can now see that these early 'intersubjective emotional resonances' – which occur between parent and offspring – create these intentional chains and further develop our motor 'understanding' of different motor acts. As the child and parent engage in shared bodily expressions, new intentional chains develop building up an increased closeness and understanding. The mirror neuron system seems to play a key role in the development of this primal understanding for the PEMS view. We can also see that this PEMS can also be influenced by the narrative self, that is, interactions with other subjects (and objects as well, of course), can incorporate themselves into the PEMS

¹⁰² Sinigaglia. "Mirror Neurons: This is the Question." 84.

¹⁰³ Sinigaglia. "Mirror Neurons: This is the Question." 86.

via the role of action chains that develop through repeated contact and interaction. What we can say, is that there is a new theory of embodiment emerging, where it seems the 'body' shapes the 'mind.' As we saw with Meltzoff and Moore, Stern, Trevarthen, Johnson, Papoušek, and others, the new theories inspired by these discoveries are causing us to re-evaluate our original assumptions about our understanding of cognition. And this is leading us to see cognition beginning at a minimal bodily level (through shared, intentional action chains), which precedes and sets up the scaffolding from which a more robust narrative self can emerge. The benefit of chapter 2 has been that we've gotten a closer look at how one of the 'forms of vitality' might operate from the perspective of neuroscience. However, more work needs to be done in this field, and a broader and more encompassing view needs to be taken to fully understand the implications of a kinaesthetic approach to the self.

Chapter 3: Body Schema, Proprioception, Body Image

*"The outline of my body is a frontier which ordinary spatial relations do not cross. This is because its parts are inter-related in a particular way...I am in undivided possession of it...through a body [schema]."*¹⁰⁴

If we are to understand the Phenomenological-Enactive Minimal Self which underlies and continually influences our narrative self, then it would be helpful to be able to draw on a common vocabulary which can provide us with clarity and a better understanding of what we are dealing with. Both Shaun Gallagher and Brian O'Shaughnessy have contributed greatly in this regard, and for this chapter we will be drawing heavily on their work to achieve a greater degree of clarity on this issue (chapter 4 will take the terms and vocabulary introduced here and further analyze and expand upon them). There is a dual role for this chapter, however, and that is not only to provide vocabulary which increases clarity and understanding, but which also contributes to – and has a key role in – elucidating what the structures are which provide us with that phenomenological sense of *mineness* which is a key element of the PEMS viewpoint. Through the analysis of proprioception and its structures, for example, we will discover how they can make up and explain the primitive self-reference that makes up our subjectivity of experience. This chapter hopes to add to, enrich, and fill in, the areas explored in the first two chapters on infant development and mirror neurons. It will begin by looking at some key terms for the area of embodiment and enactivism of interest to us and by defining them. Along with building on what was covered in the first chapter on infants, in this chapter we will apply these new terms and ideas to the case of Ian Waterman, a person who because of an accident affecting his bodily movement, provides a good way of understanding the different divisions within embodied selfhood. The four key terms which we will be focusing on in the first part of this chapter, are: *pre-noetic*, *body schema*, *proprioception*, and *body image*.

Noetic operations are processes which we are all familiar with; these include memory, judgment, and perceptions that take place at an aware, conscious level. When we look at *pre-noetic* structures, we are dealing with processes which lie beneath, or below the noetic structures. Pre-noetic analysis looks at how the body 'anticipates,' or sets the stage for

¹⁰⁴ Merleau-Ponty. *Phenomenology*. 112 (emphasis original). Although in the Routledge edition Colin Smith translates Merleau-Ponty's word *schema corporal* as 'body image,' Shaun Gallagher has shown that *body schema* is more in line with how Merleau-Ponty should be translated using the modern usage of the terms. See Gallagher (2005), p.20. Gallagher, Shaun. "Body Schema and Intentionality." *The Body and the Self* Eds. Jose Luis Bermudez, Anthony Marcel, and Naomi Eilan. (MA:MIT, 1995), 232.

consciousness and implicitly shapes or forms it; as such, they lie *behind* our conscious awareness, or they occur *before* we know about it.¹⁰⁵ Much of the analysis of the phenomenal aspects of our experiences has been focused at the noetic level. However, as we've seen, recent work has caused us to not so much question or overthrow this approach, but to look deeper. If we are to understand how the body 'grips' the world, and learn what it 'does' for us, the argument that I want to make is that it is pre-noetic structures which form the foundation, or basis for this. By getting a clearer understanding of the pre-noetic structures, we will have something which we can point at and say 'here are some of the bodily structures which provide us with the phenomenological sense of *mineness*' which we experience.

The pre-noetic idea which is most important for us in this regard is the *body schema*. Gallagher defines the body schema as "a system of sensory-motor capacities that function without awareness or the necessity of perceptual monitoring."¹⁰⁶ It is the body's capabilities, abilities, and habits, which set up the constraints on what movements we do, or are able to do (Just as important to this is the *body image*; this is the "system of perceptions, attitudes, and beliefs pertaining to one's own body." However, we will look at the body image in detail at the end of this part of the chapter.)¹⁰⁷ The body schema is not a set of "perceptions, beliefs, or attitudes," but are *subpersonal* (which we can understand as internal, automatic adjustments to changes) and as such subpersonal processes act *below* any type of self-referential intentionality.¹⁰⁸ The body schema is the most primitive aspect of a body being able to function. The body schema is what provides us with our typical unreflective posture. Even at complete rest the body is 'active,' it is the body schema which plays the background role of keeping us upright in an unaware way when we sit at our desk and type on our computer. And it is the body schema which subpersonally and preintentionally coordinates our hands in using a fork and knife at the dinner table to feed ourselves while we are intentionally involved in a personal conversation with others. A lot of terminology has just been introduced, so let us summarize the three main aspects of the body schema: (i) it lies "prior to or outside of intentional awareness;" (ii) the body schema is "subpersonal;" (iii) the body schema is holistic in the way it manages the entire body as a unity, rather than dealing with individual body parts.¹⁰⁹

¹⁰⁵ Gallagher, Shaun. How the Body Shapes the Mind. (UK: Oxford, 2005),2, 17(n.1).

¹⁰⁶ Gallagher. *Body*. 24.

¹⁰⁷ Gallagher. *Body*. *ibid*.

¹⁰⁸ Gallagher. *Body*. 26. "Body Schema." 233.

¹⁰⁹ Gallagher. "Body Schema." 228-229.

Things get a bit more complicated when we arrive at the idea of proprioception. Proprioception provides us with a difficulty, because it encompasses aspects of both the pre-reflective body *schema*, and the reflective body *image*; it is a concept which straddles and serves to connect the body schema with the body image. Gallagher breaks proprioception up into two areas. Proprioceptive *Awareness*, for him, is predominantly a self-referential but normally pre-reflective awareness of our movement (although he says it can also be reflective; we will address that potential inconsistency in the next paragraph).¹¹⁰ Proprioceptive *Information*, is a non-conscious understanding of movement performance that acts at a subpersonal – or automatic – level which is constantly updating the movement and posture of the body. Proprioceptive Information is a pre-noetic operation, thus the emphasis on it being subpersonal and non-conscious, it lies behind or before our conscious awareness.¹¹¹

This leads us to the problem mentioned above of how much of proprioception is pre-reflective and how much is reflective? Let us summarize one more time how Gallagher wants us to understand proprioception before we delve deeper into this difficulty. Proprioceptive Information "contributes to the body-schematic control of posture and movement, and plays an essential role in the operations of body schemas."¹¹² If I am running across a field and reaching outward to catch a frisbee in flight, I am not aware of all the adjustments and alterations that occur in my neural structures and the muscle adjustments that need to be made to allow me to accomplish this task. This is the automatic subpersonal Proprioceptive Information that occurs before – or behind – my conscious awareness. The Proprioceptive Awareness comes to play in a usually pre-reflective way when I run about the park catching and throwing the frisbee and being aware in a vague sort of way that I am engaging in a physical activity. I am not so much focusing on a specific body part or area during this activity, but I am aware that I am moving about for the purpose of throwing and catching the frisbee.¹¹³ These two types of proprioception communicate with each other (i) intermodally as communication between proprioceptive awareness and our visual capabilities, and (ii) as communication between all the various sensory systems and the motor system.¹¹⁴ The next part of the discussion – drawing on O'Shaughnessy's view of proprioception – delves further into its functions as a bridge of sorts between our discussion of body schema which we addressed before, and the body image which is coming up.

¹¹⁰ Gallagher. *Body*. 46-47, 73-74.

¹¹¹ Gallagher. *Body*. 47, 73-74.

¹¹² Gallagher. *Body*. 73.

¹¹³ Gallagher. *Body*. 73.

¹¹⁴ Gallagher. *Body*. 75.

Like Gallagher, Brian O'Shaughnessy has also looked in some depth at what proprioception is. He says "it takes a back seat in consciousness almost all of the time."¹¹⁵ He clarifies: "I employ [the term proprioception] to stand for our awareness of our own limbs and body - vaguely conceived...it is not to be described as a 'kind of information', if that means the possession of cognitive attitudes. And it is to be sharply distinguished from the attentive awareness of bodily feelings."¹¹⁶

Next, for O'Shaughnessy, we ask: how does proprioception attend to the body, both its parts and as a whole? O'Shaughnessy ventures that "we all of the time perceive the body as a whole, recessively and with a limited measure of differentiation of detail, and that particular bodily sensations...usher into being a perceptual awareness of the body point...singled out, an awareness that takes place on the 'ground' of the body as a whole."¹¹⁷ Thus the body sits in the background most of the time and only under certain circumstances does a specific aspect of it rise forth in greater detail (In the next paragraph keep in mind that O'Shaughnessy's idea of a 'short-term' and 'long-term' body image is different than Gallagher's (I will use the term as Gallagher uses it). These ideas are being introduced for the purpose of leading up to an examination of O'Shaughnessy's proprioceptive 'origin points,' which are of importance to the PEMS project).

O'Shaughnessy delineates proprioception into a *short-term body image*, and a long-term *body image*. The short-term body image is, roughly speaking a consideration of how potential – and actual – bodily encounters with the objects and the environment are dealt with from moment to moment as bodily attention shifts. We are dealing with contents of bodily proprioception at any moment. Consider a violinist and how their body maintains posture in spite of the continuous (potential and actual) arm movements necessary for the playing of the instrument during a performance. At any given moment there are a series of spatial, bodily states of affairs that will have to be allowed for (if the performance is running smoothly, then rehearsed actions can continue as practiced, but if a string breaks, or someone else in the orchestra makes an error, an immediate change may have to be made in their performance). For our purposes, however, it is the long-term body image of O'Shaughnessy that is important, so we will focus on that.

¹¹⁵ O'Shaughnessy, Brian. "Proprioception and the Body Image." *The Body and the Self* Eds. Jose Luis Bermudez, Anthony Marcel, and Naomi Eilan. (MA:MIT, 1995), 175.

¹¹⁶ O'Shaughnessy. "Proprioception." 201 n1.

¹¹⁷ O'Shaughnessy. "Proprioception." 183.

The idea of a *long-term* body image for O'Shaughnessy is "an unformed or vague or malformed concept."¹¹⁸ This is in part due to the messy way in which it has been used in different social settings and how it is described or understood by the general public (e.g. when the media talks about how certain anorexic teens may possess a certain 'body image' of themselves, the term is used here in a very loose sense). There is, then, an ambiguity in the mentalistic concept that is used to describe how a person – like a teenager – may describe the body image they have of themselves, and a less mentalistic sense of the idea where we might argue that some infants have a simple body image of themselves. Still, despite terminological difficulties, he thinks of the long-term body image as another 'reality' which follows the previous three short-term concepts (this long-term body image is perhaps closest to what Gallagher calls the body image, in that there is some type of conscious attending to the body).

The problem involved in a long-term body image is that the existence of these proprioceptions are in need of explanation – how does one come up with a starting point for our proprioceptions? That is, if our spatial content is based on feedback from bodily sensations, then what is the cause – or starting or beginning point – of our bodily 'knowledge'? If a sensation is based on a previous sensation, which is in turn based on a previous sensation, then it seems that we are in danger of an infinite regress. O'Shaughnessy's solution is to describe three 'origin properties' which organisms possess. We begin with the *changeless innate*; this is to have a certain natural, or particular feature of the body, which is 'changeless' in that it appears and functions the same from person to person, such as a finger, or toe; these digits exist as an innate and natural part of our body from the very beginning of our existence. Then there is the *developmental-acquired*, which is what naturally happens to that organ (i.e. our fingers and toes grow and change shape and form as we grow, and our body has to naturally adjust to this change in size and shape). Lastly, there is the *experience-acquired*; this is our continued experience of using the particular body part.¹¹⁹

Let us develop O'Shaughnessy's proprioceptive origin points further. At this point it might be instructive to see how they might work by expanding upon one of the cases we looked at earlier in chapter 1 when we looked into infant bodily motion. The experiments (drawn from the work of Esther Thelen and Linda Smith) involve an infant's coordinated stepping motions. When held above the ground a young infant can make relatively good stepping motions. This skill seems to disappear, however, around the second month, and only reappears somewhere around the 8th to 10th month, when the infant can support its own

¹¹⁸ O'Shaughnessy. "Proprioception." 187.

¹¹⁹ O'Shaughnessy. "Proprioception." 193.

weight. Interestingly, between the first stage when the leg movement was more reflexive, and the second stage where the walking movement reappeared and became more intentional, one could still get the infant to coordinate its stepping pattern if it was placed on a treadmill. It was argued at that point that this research showed there is not some inner blueprint which is followed, but that these developments emerge and change with the infant through a complex interplay of forces (including in this case: the leg mass, leg moving actions, exterior influences such as the treadmill, and deliberate choices). The proprioceptive 'origin points' of O'Shaughnessy fit into this suggestion. The leg, for example would be part of this 'changeless innate' part of the infant – it is a body part which has been with the infant from its earliest development. The change in the infants' body and leg mass in this vital early period fits in with O'Shaughnessy's 'developmental-acquired,' which expressed the constant change which occurs as the leg (and body which the legs eventually would have to hold up) were in a constant state of growth and development. Lastly, the 'experience-acquired' category of O'Shaughnessy shows the infants' continual response to the environment (i.e. being held above the ground, being placed on a treadmill, trying to walk on its own, etc). This theory and data of the infant coming to terms with its body, and having its body as the focal point of understanding itself, other objects, and other persons, all supports the enactive approach by bearing witness to the fact that the infant is actively generating its own identity. It showed that cognition of self and other emerges through this embodied action and that this is relational and brought out via its attempts to couple with the environment. This gives us a clear example of how the ever changing and growing body can adjust to changing circumstances and maintain unity even as new things arise. O'Shaughnessy has provided categories of organization and development which support the enactive idea of autonomous agents actively generating and maintaining themselves, and by doing so bringing forth their own cognitive domains. This is based on relational modulation between the infant and situations encountered in the environment.

We can perhaps also see that these proprioceptive structures can help explain the primitive self-reference that makes up our subjectivity of experience, for as our body progresses through the 'developmental-acquired' and 'experiential-acquired' stages, there will be a different way in which we relate to our bodily self. Consider an adolescent; while a teen is making their way through this 'developmental-acquired' stage, there is frequently a feeling of awkwardness as they adjust to their constantly growing body. We can also think of a slender individual, who in a short period of time gains a considerable amount of weight; this 'experience-acquired' change will also typically have a strong effect on how this person feels

and thinks about themselves, and they will see some opportunities fade or drift away (other useful examples along the same lines would be the necessary adjustments a pregnant woman must go through, and the physical changes associated with old age). These structures are also part of the explanatory framework for the phenomenological component of the Phenomenological-Enactive Minimal Self.

One question that arises at this point is: whose terminology should we be using to understand these concepts? I will be using some of Gallagher's terms (with a re-examination of 'body schema' and 'body image' occurring in the next chapter), but arguing that O'Shaughnessy's 'origin points' is an important starting point for the creation of our most basic body schema and early proprioception, and to emphasize the important PEMS related concept of *mineness*. This is still a difficult terminological and conceptual issue, for we still haven't found the transitional piece to the puzzle between the pre-reflective and reflective, and until we do, this will be a difficult area to navigate, and we are terminologically and conceptually bereft as a result. This issue will be looked at in more detail in Part II when we examine affects (feelings, moods, and emotions) and how they operate. For the moment, we can recall the infant stages of transition that Stern (as well as Trevarthen and Reddy) had, with the progression from the emerging infant self into the narrative level. In the process of this change, we see the infant develop from actions that occur outside its reflective awareness, to that where it can create a narrative about itself (we will see more of this in chapter 5 when we look at gesturing and its relation to language).

There is one more thing that should be considered when it comes to proprioception and body schemas, which shows that they may be even more expansive and important in what they do than even Gallagher and O'Shaughnessy think. Vittorio Gallese and Corrado Sinigaglia have recently tried to further articulate what the bodily self is and what it does. They argue that the body is not only something that is already given to us, but that it is primarily given to us as a 'source' or 'power' for action.¹²⁰ This means the different variety of motor possibilities which exist for us literally defines the landscape – or horizon – of the world in which we can interact and direct things with our bodies. They think that much of the discussion and talk of body schemas and proprioception speak as if they are the only modalities which provide information about the body. Also, the implications of much of these discussions imply that the body is isolated from the world. For Gallese and Sinigaglia, proprioception is (i) not the only sensory mode of providing bodily information, and (ii) the body is not simply a body that is

¹²⁰ Gallese, Vittorio, Corrado Sinigaglia. "The Bodily Self as Power for Action." (Neuropsychologia, 48, 2010), 746.

being experienced, "the body as experiencing body is always in 'excess' of the body that is experienced...a further step is required, consisting in the investigation of the way in which the experiencing body unfolds its 'excess' in the very making of experience."¹²¹ The idea of 'excess' here means the different variety of motor possibilities which exist for us in the world as possibilities for action.

By way of evidence to show that body schemas are not just sensorimotor (in that it focuses on physical postures, or the boundaries of the body), but also powered for action (in that it "reflects the power for action that may exceed the actual domain of actions available to the body."¹²²), Gallese and Sinigaglia looked at other research where they found that tools can be used to shape a person's body schema. In one such case, a hand-held tool that allows someone to extend their reach was used with healthy people, those with brain damage, and those with visuo-tactile handicaps. The results of these experiments showed that reaching a visual stimulus with the tool had similar interference effects as those that were reached with the hand. Moreover, when using the tool to reach, the effects relied on the tool and not on hand posture as it did with people who just used their hand.¹²³ For those with brain damage, the reaching tool increased or decreased their handicap depending on how the tool modified their grasp (they were in effect getting the same results using their hands as they were using the reaching tool). The way the body was able to modify and remodulate its motor acts and tactile feedback based on this tool that extended their ability to reach, seems to show that there is more to a body schema and proprioception than simply monitoring and maintaining parts of the personal body. They argue these findings show that the body schema is comprised of "multi-sensory integration and dynamic plasticity. The construal of the body schema in terms of a set of sensory-motor laws working at a mere kinematic level, with the only function to control the postural adjustments required by movement execution does not fully account for the...above-mentioned properties."¹²⁴ The peri-personal space – that area of space in which objects are within reach of us – seems to be quite flexible in its range, depending on our motor goals, actions, and what means are used to extend or subtract it. The ability of our bodies to use tools to augment our bodily capabilities may require us to delve deeper into the relationship between body schema, proprioception, and how they coordinate our action.

The relation between bodily action and bodily self-awareness in Gallese and Sinigaglia's view goes beyond the simple control or anticipation of action, for both presuppose

¹²¹ Gallese and Sinigaglia. "The Bodily Self." 747.

¹²² Gallese and Sinigaglia. "The Bodily Self." 751.

¹²³ Gallese and Sinigaglia. "The Bodily Self." 747.

¹²⁴ Gallese and Sinigaglia. "The Bodily Self." *ibid.*

the body as a source for action. Consider the following experiment and conditions: In what is called the 'Rubber Hand Illusion,' a person sees a rubber hand being stroked along with one of their own, unseen, hands. In this experiment vision dominates touch, for if the stroking of the real and rubber hands occur in synchrony, the person will move their real hand toward the location of the false hand; the person's "active movements [in effect] integrate distinct body parts into a coherent unified self-awareness of the body."¹²⁵ The people involved state that they literally feel the rubber hand as being part of their body.¹²⁶ In a situation such as this, the active movements are integrated by us into our own body and placed into a coherent and unified whole. Consider the next two disorders. Asomatognosia is a disorder where, because of a premotor lesion which causes a defect in motor intentionality, a person feels that a part of their body is missing, or has disappeared from their physical awareness. They in effect lose self-awareness of some body part(s). And Somatoparaphrenia is a disorder where the ownership of a part of a person's body is denied, or where that part is thought to be a part of another person's body. These disorders cause the person to feel a *separation* from their body, or a deluded belief that the affected body part belongs to *someone else*. This seems to show that the body schema does more than just monitor posture, or monitor the body's boundaries. Indeed, Gallese and Sinigaglia want to argue that cases like these show that the body schema does not just "reflect the physical postures or boundaries of the [organic] body, but reflects the power for action that may exceed the actual domain of actions available to the body."¹²⁷

We saw earlier that there is some question as to where the non-aware sensorimotor body aspects end for proprioception and where conscious monitoring begins. We will now look more closely at the conscious aspects of our bodily self: the body image. We will quote again the definition of body image from Gallagher: the body image is the "system of perceptions, attitudes, and beliefs pertaining to one's own body."¹²⁸ Gallagher breaks the body image down into three subcategories: (i) the Body Percept, which is the perceptual experience the subject has of their own body. (ii) the Body Concept, which is our conceptual understanding of our body – both scientifically and of that through folk psychology. And (iii) the Body Affect, which is our emotional attitude to our body.¹²⁹ These subcategories cover a vast conceptual range of ideas the person can have of their body, and all are important. Although the focus of this part of the discussion will be more on the first idea of the 'body

¹²⁵ Gallese and Sinigaglia. "The Bodily Self." 750.

¹²⁶ Gallese and Sinigaglia. "The Bodily Self." 750-751.

¹²⁷ Gallese and Sinigaglia. "The Bodily Self." 751.

¹²⁸ Gallagher. *Body*. 24.

¹²⁹ Gallagher. *Body*. 25.

percept,' the 'body concept' will return as the background concept which will be the focus of Part II when we look at the Affective Self, and the 'body affect' will also be an important concept that will underlie the discussion of Part II. Thus, it is quite important to come to an understanding of the first – and most foundational aspects of – these three categories of body image.

We have already seen in our look at infant development, mirror neurons, and the exploration in chapter 3 on body schemas and proprioception, some of the ways in which a body schema emerges. This should now allow us to see how the body schema can play a role as an important component in the minimal self. All these cases show how the body lays the groundwork for our earliest means of understanding ourselves, and this is done in a way which lies mostly at a pre-reflective level. Whereas the body schema predominantly takes place prior to any form of representation and abstract reasoning, the body image *does* possess some abstraction and representation, since here we are dealing with the way we personally interpret and see things; and when we go about a particular, focused, activity, we are usually looking *for*, or *at* something specific. We could say that the body image represents to us what we experience from our attentive, reflective, first-person perspective; it occurs during those instances when something specific is attentionally brought into consciousness for purposeful focus or reflection. Thus, where the body schema was pre-personally pragmatic in its attempt to find an overall bodily way of coming to grips with an environmental situation, the body image is our personally attentive – sometimes abstractly analyzed – focus on a specific aspect of the body, or even a specific part, relevant to a situation in which we find ourselves at a given time.¹³⁰ Furthermore, the body image is also influenced by the language which a person uses to express themselves as an embodied being. Thus, cultural factors play a distinct role in how the person appears to themselves. From this we can see that the body image is something which is not just innate, but develops over time as we become better at consciously attending to our body. Because of this, we can begin to see how the development of a personal body image is something which follows on from our development of a pre-personal body schema.

Perhaps the best way to highlight the difference between the body schema and the body image is to look at the case of Ian Waterman. His case will show us in clear detail what happens when a person loses most of their body schema and must replace it with their body image. Most of us experience our body as *ours*; it is something of personal significance. Through our body schema we develop a posture, gait, and movement, based on how our body

¹³⁰ Gallagher. "Body Schema." 229.

morphology can best navigate the environment. And the body image provides us with a more reflective perspective. But what would happen if that pre-reflective body schema were impaired? That is what Ian Waterman had to deal with.

Due to sensory neuropathy which damaged the fibres below his neck, Ian Waterman lost his sense of touch and proprioception from the neck down.¹³¹ This means, in the words of Gallagher, that he "is still capable of movement and he experiences hot, cold, pain, and muscle fatigue, but he has no proprioceptive sense of posture or limb location."¹³² Initially when this happened – when Waterman was 19 – he lost motor control and the ability to maintain posture. When his body schema became disabled (at least below the neck, it is important to remember that from the neck up he still has proprioception), he had to learn new ways to navigate and move about. This happened by attempting to substitute his body image for his body schema. As you recall, the body schema is largely a pre-reflective ability for the body as a whole to function, whereas the body image is largely a specific body area or part being consciously attended to. Thus, Waterman's ability to maintain posture or to walk meant that, initially, he had to consciously attend to each of his feet as he took each step, as well as try to remain aware of others around him so as to avoid falling when he got bumped by someone, or something. This was a slow process, since, with no tactile feedback, he had to rely heavily on his visual sense. This becomes even more apparent if he is blindfolded, or left in the dark without the ability to see his body; in such cases he is not able to control his movements. What Waterman has managed to do is substitute at a conscious and reflective level what most people manage at a subconscious and pre-reflective level, by using his visual sense and by imagining what he is about to do.

Still, doesn't the body schema precede the body image? If the body image is based in part on the body schema, then if the body schema is damaged, how is Waterman able to use his body image? I think there are three factors that need to be taken into account: (i) This sensory neuropathy didn't occur until Waterman was 19, thus he spent most of his youth with a body schema which had developed enough for a body image to develop. (ii) We have also seen the importance of continually operating mirror neurons in allowing us to at least embed the dynamics of bodily action within us, through the context of situational motor acts (action chains), providing us with an 'understanding' of action. Once laid down, the mirror neurons seem to give us another method in being able to relate and react bodily to the world. In the case of Waterman, the neural network would have to be re-configured when he lost his body

¹³¹ Gallagher. *Body*. 43.

¹³² Gallagher. *Body*. 43.

schema to re-adjust to the body image taking over. An interesting question that arises from this is: did this re-configured neuronal system mean that his 'interpretation' (at the mirror neuron level) of others' movement change due to the re-configuration? And (iii) Waterman still maintained proprioception above the neck. However, even with a body schema developed in youth, and some proprioception above the neck, once Waterman lost his proprioception below the neck, this impaired his body image, and he had to learn not only to compensate the body image for the body schema, he also had to learn to use his body image anew. Gallagher points out four ways in which Waterman's compensation of a body schema through visual body imagery is limited. First, there are limits to what Waterman can attend to at any given time; he can only focus on a few things at a time. Two, because he has to focus on every step he takes along with other potential environmental hazards, his movement is slowed down. Three, the duration of his motor activity is of a short duration due to the amount of mental energy it takes to keep it going. And four, single and combined, or compounded, movements require a large amount of energy.¹³³ From this data we can perhaps add as a possibility that as Waterman has had to make the adjustment of using his body image instead of his body schema, that some of the neuronal configurations in his brain have restructured themselves according to his new requirements; one thing that has emerged in recent years is how truly plastic the brain can be in recovering and adjusting to impairments.

A difficulty arises when we look at infants, for we are seeing a life form emerging and in transition; does an infant have a body image? Gallagher and Meltzoff think that if the infant didn't have some type of primitive body image, then it wouldn't have an awareness of its own face which makes it able to improve its imitative performances of facial expressions. Not only is the body schema working to make the infant physically competent in its environment, but the infant is also in the early stages of developing a body image as well. What Gallagher wants to argue, is that "the neonate...does have, in the most general sense, a proprioceptive awareness of its own face."¹³⁴ Gallagher thinks this proprioceptive awareness constitutes for the infant the bare beginnings "of a primitive body image."¹³⁵ Here is an example of how the phenomenological *givenness* that makes up part of *ipseity* develops and emerges.

Near the end of chapter 1 we looked at the larger picture of development going all the way back to the womb (drawn from the work of Colwyn Trevarthen and Vasudevi Reddy). The enactive view is born out with the timeline of development of theirs which we looked at. As

¹³³ Gallagher. *Body*. 54.

¹³⁴ Gallagher. *Body*. 73.

¹³⁵ Gallagher. *Body*. *ibid*.

early as the 8th week (and sometimes starting as late as the 16th week) of gestation the foetus begins its ability to differentiate between its hands, face, and other senses. This is the time when we first see the systems of the brain along with the motor structures of the body becoming active through movement. Notice that this is before the developing human organism ‘senses anything.’ It is in the embryo body and brain where we see the origin points of proprioception first appear. This would also seem to be the place and time where the ‘body schema’ is getting laid down. As with anything at this early stage in development, it is difficult to point at a specific point and say “this is where THE Self begins!” In fact, as we can see, there is a broad 8 week period where this might emerge, so specifics make this very difficult indeed to pinpoint. But at the very least we seem to be able to say that it is in this broad 8 week period where some elements of the minimal self first begins to appear. At the 24th week of being in the womb the developing foetus is able to react to the touch and movement of its mother or of a twin. This, we could argue, is the time of origin of its first experience and ability to react and respond to ‘otherness’ (again, through bodily movement). A further milestone is the 32nd week of being in the womb, when the face, mouth and hands become active. If the 8-16 week development seems premature for establishing origin points for the body schema, then perhaps it will seem more plausible that it is at this point – when there is bodily movement and motion – where the most basic motoric ‘understanding’ begins and emerges. The details of this scenario are worth exploring in much greater detail at a later time, for one can perhaps already see the different ethical dilemmas that emerge (i.e. abortion) from trying to work out when selfhood of some kind might first appear in an embryo. However, for the purposes of this project, all that is necessary to establish, even with some of the vague time frames which we have looked at, is to show the strong evidence for a *very* early emergence and development of components which make up an Phenomenological-Enactive Minimal Self.

As presented in this chapter so far, the body schema represents a process for us which lies largely below our conscious awareness (being prenoetic). It is considered a part of what I am calling the Minimal Self that first appears in the time frames which we saw discussed by Stern in the age breakdown of his ‘emergent’ and ‘core’ self (i.e. from *possibly* the 8-16 week of gestation, but much more likely emerging after the 24th week, with even more evidence pointing to after the 32nd week of gestation, and then developing further during the first few months after birth). The body image is viewed as a noetic process which lies within our conscious awareness. It is through the emergence of an infant’s proprioceptive awareness of its own face that a primitive body image begins to emerge. Thus, although it emerges later in our development, we see that it still has a basis – and is influenced by – the body schema

which comes before it. Our examination of the proprioceptive origin points, the body schema, and body image, should be seen as evidence that despite our animate origins there are some core foundational elements to our bodily orientation and understanding. Proprioception, body schema and body image create a type of bodily unity which is formed in our never-ending primal animation from our very beginning, and remains with us and adjusts itself as we enact new forms of bodily meaning throughout our lives and in situations – like Ian Waterman – when we experience a loss of some kind to full bodily access and control. However, we saw an issue raised by Vittorio Gallese and Corrado Sinigaglia which argued that the body was a ‘source’ or ‘power’ for action. They think that just relying on proprioception is too limiting, that it seems to imply that the body is isolated from the world, that it is the only sensory modality providing information about the body. Rather ironically, this is also a limitation we’ve found when we looked at their arguments on behalf of mirror neurons in the previous chapter (2). But just as mirror neurons were seen to be a piece of the puzzle, we should be able to agree that proprioception is also only a piece of the puzzle of understanding the lived, dynamic body.

In this chapter we have looked at body schemas, proprioception, and body images. Whereas in chapters 1 and 2 we looked at some ideas in isolation that argued for an enactive and phenomenological understanding of the minimal self, with an emphasis on earliest development, in this chapter we have been able to arrive at a more unified understanding and vocabulary which further fleshes out the bodily importance and foundation for our development and action in the world. More than that, this chapter has given us further insights into the structures involved in the development of a minimal self and how the most basic sense of *mineness* arises. The next chapter will take what we’ve looked at here and further expand upon it.

Chapter 4: Vitality Dynamics: A Critique of Bodily Agency/Bodily Ownership, and re-evaluating Body Schema/Body Image

“Even if all of the unessential features of self are stripped away, we still have an intuition that there is a basic, immediate, or primitive ‘something’ that we are willing to call a self.”¹³⁶

This chapter is going to expand upon what we just looked at. It is structured as follows. First, we will take a critical look at Shaun Gallagher’s idea of bodily ownership and bodily agency. This conceptually fits in with the body schema/body image. Just as we found difficulties navigating through the breakdown in the concepts and ideas of body schema/body image/proprioception, here we will see – by bringing in the critiques of Sanneke de Haan and Leon de Bruin – that a clean break between bodily ownership and agency is likewise difficult. During this analysis of Gallagher we will be recalling ideas originally discussed in the previous chapter to show how they fit within the larger picture that is emerging, this will include Gallagher’s understanding of what a minimal self is. Since Gallagher’s understanding of what a minimal self is, is quite close to mine, this will be useful in allowing us to see from several perspectives how a minimal self can be understood, and how data supports it. The second thing we will do after we’ve found problems in Gallagher’s system, is to bring in the insights of Maxine Sheets-Johnstone as a way of giving us an alternative approach to the bodily self by interrogating Gallagher’s ideas of the body schema and the body image. Although so far we’ve adopted these terms as useful in helping us to reveal the Phenomenological-Enactive Minimal Self (PEMS), we will find that we will need to modify this view slightly, and new terms will be introduced (e.g. corporeal-kinetic patterning, corporeal-kinetic intentionality, and kinaesthesia) which better capture essential aspects of PEMS. The chapter ends by returning to some core enactive ideas and seeing how they relate to the bodily self.

Bodily Ownership and Bodily Agency

The discussion of the Bodily Self thus far has emphasized a distinction between the body schema and the body image. Now we will see this from the perspective of our sense of

¹³⁶ Gallagher, Shaun. “Philosophical Conceptions of the Self: Implications for Cognitive Science.” (*Trends in Cognitive Sciences*. Vol. 4, 2000), 15.

ownership (SO) and sense of agency (SA). Let us begin with the sense of ownership. Gallagher defines this as: “The sense that I am the one who is undergoing an experience.”¹³⁷ This would include “the sense that my body is moving regardless of whether the movement is voluntary or involuntary.”¹³⁸ Thus, according to this view I would feel a SO of my body regardless of whether I had picked up a cup of tea to drink, or if someone came up to me from behind and gave me a push. Either way I would have a sense that this body was mine. A SA according to Gallagher is: “The sense that I am the one who is causing or generating an action.”¹³⁹ This would be “the sense that I am the one who is causing something to move, or that I am the one who is generating a certain thought in my stream of consciousness.”¹⁴⁰ So, if I picked up a cup of tea, I would not only have a SO, I would also have a SA for this action. However, if someone pushed me from behind, although I would still feel a SO of my body as it was propelled forward, I would not have a sense of being an agent of this movement.

Both our SO and SA can lie within immediate first-order experiences and in higher-order consciousness, which is reflective or introspective (which could be tied in with the body image).¹⁴¹ These two aspects, then, have the following relationship: a sense of agency usually implies a sense of ownership; however, a sense of ownership does not imply a sense of agency. Something else emerges from this new distinction, and that is a distinction between different aspects of the self that can be associated with ownership and agency. These aspects, with which we are already familiar, are the ‘minimal self’ and the ‘narrative self.’ The minimal self – as Gallagher describes it – is “consciousness of oneself as an immediate subject of experience, unextended in time” (it is unextended in time in that it does not rely on memories of the past or intentions of the future).¹⁴² Although this minimal self depends on processes in the brain and a body embedded within the world, one nevertheless “does not have to know or be aware of this to have an experience that still counts as a self-experience.”¹⁴³ This minimal self, then, is something tied-in with immediate first-personal experience. Gallagher thinks the

¹³⁷ Gallagher. “Conceptions of the Self.” 15.

¹³⁸ Gallagher. “Conceptions of the Self.” Ibid.

¹³⁹ Gallagher. “Conceptions of the Self.” Ibid.

¹⁴⁰ Gallagher. “Conceptions of the Self.” Ibid.

¹⁴¹ Tsakiris, Maos, Simone Schütz-Bosbach, Shaun Gallagher., “On Agency and Body-ownership: Phenomenological and Neurocognitive Reflections.” (Consciousness and Cognition. Vol. 16, 2007), 646.

¹⁴² Gallagher. “Conceptions of the Self.” 15. Gallagher also thinks the ‘immunity principle’ is important for minimal selfhood. The immunity principle states that “when a speaker uses the first-person pronoun (“I”) to refer to him or herself, she cannot make a mistake about the person to whom she is referring. Philosophers call this ‘immunity to error through misidentification relative to the first-person pronoun’” (ibid). However, this only exists for those with linguistic resources. As we are seeing, I think the minimal self is more fundamental than that.

¹⁴³ Gallagher. “Conceptions of the Self.” ibid.

access we have to our self “in first-person experience is immediate and non-observational.”¹⁴⁴ This does not “involve a perceptual or reflective act of consciousness,” rather, “the immediate self that is referred to here is the pre-reflective point of origin for action, experience and thought.”¹⁴⁵ We can see this tying in with the ideas of a prenoetic body schema, so we can get a clearer understanding of this by building connections with what we looked at in the previous chapter. The narrative self is a “more or less coherent self (or self-image) that is continued with a past and a future in the various stories that we and others tell about ourselves.”¹⁴⁶ This sense of self, instead of being unextended in time and immediate like the minimal self, is instead extended in time (that is, it includes past memories and future intentions) and something which we are self-conscious of. It is a self that includes memories of our past and intentional possibilities for our future. One can perhaps see how the body image can tie in with the idea of a narrative self, since it is the way in which we perceive ourselves in a consciously aware way. Having introduced these two divisions of self – the minimal and the narrative – we shall be focusing most of our attention in the remainder of this chapter on the minimal self and some of the difficulties related to the ideas of ownership and agency. The PEMS theory – broadly speaking – accepts Gallagher’s basic definition of a minimal self; specifically that it is ‘consciousness of oneself as an immediate subject of experience,’ which PEMS would call the ‘subjectivity of experience;’ and that it is a ‘pre-reflective point of origin for action, experience and thought.’ Gallagher also describes his minimal self as ‘unextended in time,’ and as dependent on brain processes and a body that is ecologically embedded. In regards to the phenomenological sense of time and the dependence on brain processes and an environmentally embedded body, PEMS will be exploring the difficulties of this terrain in much greater detail in Part II (chapters 6-9). For the moment, we can be reminded that in chapter 1 that Stern also thought of his ‘emergent self’ as unextended in time (i.e. ‘present moments that correspond to ‘nows’), and that PEMS disagreed with this; PEMS argues for the ‘subjectivity of experience’ – the phenomenological sense of *mineness* – as emerging *through* the *process* of lived experience. Again, this will be developed more ahead.

In the first few chapters of this project, we’ve looked at examples of infant development and movement that have provided support for a pre-reflective and pre-linguistic perspective on how infants acquired information through perceptual experience. We saw in our exploration of the facial gestures of infants to their caregivers (such as tongue protrusion) the imitation that occurred ruled out the idea that it was mere reflex. There was: (i) a

¹⁴⁴ Gallagher. “Conceptions of the Self.” *ibid.*

¹⁴⁵ Gallagher. “Conceptions of the Self.” *ibid.*

¹⁴⁶ Gallagher. “Conceptions of the Self.” *ibid.*

distinction between self and other, (ii) the ability to proprioceptively use specific body parts (their tongue, head, and face) in a way which reflects self-agency, and (iii) they could recognize that the face they viewed was similar to their own (self-ownership).¹⁴⁷ This would seem to show that neonates possess a primitive kind of self-consciousness (an idea which we saw is supported by the views of Trevarthen, Papoušek and Stern in Part I, and will be supported by Jaak Panksepp in Part II when we look at affects); a self-consciousness which encompasses to some degree a basic or primitive self-ownership and self-agency. Using the terminology that we've just introduced, these experiments would seem to show that infants possess a minimal self, and that this self is enactively attuned to oneself, others, and the environment, while dynamically generating new stages of development and growth.

A further example can help us get a grasp on the ideas of ownership and agency; we shall look at the Rubber Hand Illusion (RHI). The RHI (looked at briefly earlier) is an experiment where the person under study watches a rubber hand getting stroked at the same time as their own unseen hand is stroked. This causes the person to incorporate the rubber hand into their own experiential body; it in effect becomes part of their body-ownership.¹⁴⁸ Now for this body ownership to occur during the RHI, the rubber hand has to be viewed in a certain location to fit within the person's pre-existing representation of their body (so if the rubber hand is at a 90 degree angle from their real hand, or the rubber hand shown is a right hand when the left hand of the subject is the one hidden from view, then the illusion doesn't hold, for it has to be 'anatomically plausible'). Additionally, this shows that body ownership "is also modulated by top-down influences based on prior visual and functional (e.g. proprioceptive, postural) representations of the body."¹⁴⁹ The RHI shows us that body-ownership appears to arise from interaction from both bottom-up processes (which are multisensory), and top-down processes influenced by the body image and cognitive body representations.¹⁵⁰

Gallagher and colleagues also think agency can modulate body-ownership during the RHI. The problem in this instance is that that the RHI lacks bodily movement (the hand lies still and it is someone else's hand which strokes theirs). However, when the finger of the subject was being stimulated, the subject didn't just experience ownership of the finger, but of the entire hand. In this way Gallagher and colleagues think that feelings of ownership can be – and needs to be – distinguished from the actual location of stimulation and indeed feelings of

¹⁴⁷ Gallagher. "Conceptions of the Self." 17.

¹⁴⁸ Tsakiris et al, "On Agency and Body-ownership." 648.

¹⁴⁹ Tsakiris et al, "On Agency and Body-ownership." 649.

¹⁵⁰ Tsakiris et al, "On Agency and Body-ownership." *ibid.*

bodily ownership go beyond simple perceptions of the pattern of stimulation.¹⁵¹ This view was tested in an experiment. This variation of the RHI was created from several different types of stimulation. The subjects saw on a monitor an image of their hand at the same time that they were either actively (self-generated) or passively (generated by the experimenter) moving their index or little finger. It was thought that the subjects in the experiment would receive a sense of ownership from both the active and passive experiences, and that a sense of agency would occur only in the scenario when they were actively generating the movement of their finger. This was shown to be true – it was active movement and not passive movement which triggered a global change in their proprioceptive awareness. Conclusions drawn from these experiments suggest that “active movements integrate distinct body-parts into a coherent, unified awareness of the body in contrast to a fragmented proprioceptive awareness observed after sensory stimulation alone.”¹⁵²

Sanneke de Haan and Leon de Bruin take issue with Gallagher’s distinction between a sense of ownership and a sense of agency. Whereas Gallagher presents them as separate aspects of experience (much like he separates body schema and body image; and we saw some of the issues with that earlier in chapter 3), de Haan and de Bruin want to argue the sense of ownership (SO) and sense of agency (SA) “are intimately related and modulate each other.”¹⁵³ That is, that rather than there being a categorical distinction between SO and SA, instead what is found is a gradual means by which we interpret our experiences through a blending of SO and SA.¹⁵⁴ Let us return to the example of being pushed from the beginning of this section. If I am pushed from behind according to Gallagher’s account, I have a sense of bodily ownership that it is my body that is being pushed, yet I would not have a sense of agency since I had not been the instigator of this action. Involuntary action on this account shows a distinction between SA and SO. De Haan and de Bruin question this conclusion; they ask whether in this case my sense of agency has indeed disappeared. If I have been pushed forward by surprise and against my will, then yes, to a certain degree I don’t have a sense of agency, but on the other hand, I would undoubtedly be *responding* bodily to my current state of imbalance, by trying not to fall and trying to regain my bodily equilibrium. Is there not a sense of agency involved in this reaction I am performing?¹⁵⁵ In fact, they argue, if you consider the case of riding one’s bicycle and getting buffeted by a gust of wind which puts my

¹⁵¹ Tsakiris et al, “On Agency and Body-ownership.” 650.

¹⁵² Tsakiris et al, “On Agency and Body-ownership.” 651-652.

¹⁵³ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self, or How to Make Sense of Agency and Ownership.” (*Phenomenology and Cognitive Science*. Vol. 9, 2010), 373.

¹⁵⁴ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 374.

¹⁵⁵ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 377.

sense of balance in question, not only do I *not* experience a loss of agency, but this type of situation might actually cause me to *more fully* experience a sense of agency, as I endeavour to stay upright.¹⁵⁶ As we can see here, what we need to question is how fine a line we are able to draw between an *action* and a *reaction*.

We can also call into question what the term ‘ownership’ means. This term:

“implicates a divergence between owner and owned that makes it in fact very unsuitable for describing prereflective self-awareness that is addressed at the sense level. For at the prereflective level there is precisely no division between the subject and her experiences: rather they coincide. Only at the level of *attribution* do we find such a divergence between a judging subject and her body that would allow for the use of a term like ownership. Whereas the sense level refers to the felt body, the body that I *am*, the attribution level refers to the body that I *have*.”¹⁵⁷

To put it simply, the sense level refers to the lived body, and the level of attribution refers to the body as an object. They go on to say: “A weak sense of ownership *for the body* could refer to the prereflective awareness of my body which could be cashed out in terms of proprioception. It is less clear, however, what would be the equivalent of a weak SO *for a specific body part*.”¹⁵⁸ So, although a weak sense of ownership for the entire body could be referenced to proprioception, it is less clear if this can apply to a specific body part. For if I had a basic pre-reflective proprioceptive awareness of my body, *and* had it for a specific part of my body, then how can they *both* be pre-reflective? If a body part is standing out from my body as a whole, it is more difficult to argue that this is still pre-reflective.¹⁵⁹ As a result of this difficulty, de Haan and de Bruin don’t speak of a sense of ownership of a body part, but rather of an attribution of ownership to a body part.

This leads us into a discussion we need to have regarding sensations – are they entirely passive? An example that de Haan and de Bruin explore is that of having a massage. When we first decide to get a massage, there is a sense of agency involved in making the choice of when and where we are going to have the massage, however, once we arrive and are lying on the table, we can perhaps say that we will be undergoing a passive experience. However, there may be conflicting bodily messages, for our body may be tensed in anticipation of what our experience might be like, or, we may be quite looking forward to this experience and thus

¹⁵⁶ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 378.

¹⁵⁷ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 379n6 (emphasis original).

¹⁵⁸ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 380 (emphasis original).

¹⁵⁹ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” *ibid*.

already have relaxed to some degree. The question raised in a circumstance like this is whether the resistance of our tensed body, or our bodily surrender, part of something passive, or are these in fact acts themselves?¹⁶⁰

Let us further expand upon this debate by exploring this question from another perspective, that of reflexes. Looking at SO and SA from reflexes is useful, since one would expect this to be the best way to look at and understand something which is purely passive. If I am sitting on a bed in a Doctor's office, for example, and she taps my knee and my knee jerks, this would appear to be a good example of my body unintentionally reacting to something. When this occurs I do not feel a sense of agency for the reflexive action; yes, my knee has jerked, but this was triggered from an outside force. The body is a mechanistic object and has replaced my sense of body as subject. So perhaps here we can see that there is a way in which to separate SO from SA. But is this true? "Reflexes are always triggered," and if we look at this "from a broader perspective, agency is all over the place...it [the reflex] would never have emerged if not out of previous interactions. Proprioception develops through movements and interactions, so even at the most basic level SO is through and through interwoven with agency."¹⁶¹ I had *chosen* to go to *this* Doctor, or *that* massage parlour, or to participate in *this* particular RHI experiment (perhaps eager to experience what it is like to not have a sense of agency). The main point that de Haan and de Bruin want to make after looking at all these areas of involuntary movement, sensations, and reflexes, is that: "in cases of *involuntary movement*, agency is not completely lacking [...] *Sensations* do not support a strict distinction between SO and SA either [...] The only case of (relatively) normal experiences that do lack a SA is *reflexes* [however, the discussion reveals] a pervasive interwovenness of SO and SA and suggests a strong interaction between the two."¹⁶² In a moment we will see how adopting an enactive perspective enables a positive case to be made for mutual modulation between SA and SO (instead of merely a critique of a view which promotes separate domains). First, however, there is one more area to investigate. We have just looked at *involuntary movements*. What can we say about *involuntary thoughts*? We will get a flavour of this in chapter 8 when we look at the phenomenology of depression and how it can alter our way of viewing ourselves, others, and the world. What we will look at here will be focused more on schizophrenia and the unbidden thoughts that can afflict a person afflicted with this condition.

¹⁶⁰ de Haan, Sanneke, and Leon de Bruin. "Reconstructing the Minimal Self." 380.

¹⁶¹ de Haan, Sanneke, and Leon de Bruin. "Reconstructing the Minimal Self." 381.

¹⁶² de Haan, Sanneke, and Leon de Bruin. "Reconstructing the Minimal Self." 382 (emphasis original).

Gallagher says that unbidden thoughts – those thoughts that seem to appear out of the blue – are “without an intention...and without a sense of agency for generating the thoughts.”¹⁶³ Just like in several of the previous examples, this may at first seem intuitively plausible. But further reflection on the matter may require us to rethink this. As de Haan and de Bruin say, even if some thoughts do appear out of the blue, this:

“at no point...actually leads me to doubt if it was really me who generated them (as is the case in schizophrenic experiences of thought insertion). In fact, we will *usually* not know precisely where our thoughts and images are coming from, nor do we know at what precise time they began. But [this] does certainly not limit my sense of being their author.”¹⁶⁴

This would be true if we are defining agency as the source of any action or thought we make. But even if we know we are the source of some movement or thought, we still may not know where it had come from. Schizophrenics many times have delusions of control when it comes to their movements and the insertion of thoughts into their head. Gallagher says that these symptoms represent a loss of a sense of agency (SA), while their sense of ownership (SO) remains unaffected.¹⁶⁵ But it seems that not only do some schizophrenics lack a sense of agency – they also lack a sense of ownership. In cases of inserted thoughts and movements, many schizophrenics say that “[i]t felt different from my normal thinking.”¹⁶⁶ The important distinction to make here in regards to schizophrenics and their experience of inserted thoughts, is that even if they claim an *attribution* of ownership rather than a *sense* of ownership and acknowledge this, the point is that it does not *feel* this way to them – there is a discrepancy between what they *know* and what they *feel* or experience.¹⁶⁷ Thus an appeal to schizophrenia to show evidence of differences between SO and SA falls short because such an approach shows that there is a change in levels from the phenomenological feel of the experience to the attribution or knowledge. So, if de Haan and de Bruin are correct in their analysis, a divide between SA and SO in both movement and thought falls short, and indeed shows them to be intertwined.

We can now summarize this section before we move on to the case to be made for a terminology shift which is more PEMS friendly. From our investigation into SA and SO thus far,

¹⁶³ Gallagher, Shaun. *How the Body Shapes the Mind*. (UK: Oxford, 2005), 181.

¹⁶⁴ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 383 (emphasis original).

¹⁶⁵ Gallagher. *Body Shapes the Mind*. 174.

¹⁶⁶ Quoted in de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 384.

¹⁶⁷ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 385.

the only real distinction we might be able to make would be between actions that are agency-inspired and what might be called mere bodily movements. But is this distinction necessary? Even if we look at the most basic bodily processes that seem unintentional (such as breathing, heart rate, and sweating) we find that we can intentionally alter them. De Haan and de Bruin have tried to show that SO always seems to possess some elements of agency in it, and in fact we might be able to say that a sense of agency might even help give strength to the feeling of ‘mineness’ that we have in a sense of ownership.¹⁶⁸ So, just as we saw difficulties in maintaining a sharp distinction between body schema and body image, we have now seen that there are issues between SO and SA. Instead of a divide between levels, it is perhaps better to see them as intertwined, that agency and ownership can modulate each other, or that there is a close coupling between them. This relational aspect is not just the initiation of some thought or action (for we saw that there is the question of deciding where to place the point of origin for the thought or movement), there is a constant adjustment and receptivity, “a constant modulation between acting and reacting and between forming and being formed.”¹⁶⁹ This description of a constant ‘acting and reacting’ and ‘forming and being formed’ is a hallmark of enactivism. Of course, there are some criticisms we can make of de Haan and de Bruin on this subject. Their example showing that there is agency involved when we are pushed from behind and struggle to regain our balance provides a strong case I think for the interplay between SO and SA, and PEMS would support this immediate real-time response as demonstrating ownership/agency mutually influencing each other. On the other hand, when we think of the example of visiting the GP and having our knee tapped, and then witnessing without a SA the reflex of our knee jerk, the argument that there *was* agency involved since we had decided to visit the GP in the first place minutes or hours earlier, is rather weak. For if we are willing to step that far back from the situation, then of course we are going to find some agency, but this agency goes well beyond a minimal self and firmly into an instance of the narrative self playing a role. Thus, although de Haan and de Bruin have made some important points regarding the SO-SA interaction in instances of minimal and immediate bodily responses, their argument loses some of its impact when we include a larger time frame and begin to include the narrative self. Although they thought reflexes were a weakness, their argument doesn’t really bear on the minimal self, since their agency in reflexes is more at the narrative level; they have failed to distinguish between the minimal and narrative self. The dynamic mutual modulation view can allow these odd or unusual limit cases when there are unclear boundaries in interaction (like we have here).

¹⁶⁸ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 392.

¹⁶⁹ de Haan, Sanneke, and Leon de Bruin. “Reconstructing the Minimal Self.” 394.

Kinaesthesia and Vitality Dynamics: An Enactive-based Alternative

This section will present an argument for ‘thinking in movement,’ where it will be shown that our self is built from the ‘bodily felt dynamics of movement;’ that as living creatures we are geared to the world according to the bodies that we have, and this is accomplished dynamically from across many different sense modalities.¹⁷⁰ The thinkers who we will be drawing on for this will be philosopher and dance choreographer Maxine Sheets-Johnstone, and Daniel Stern.

In the previous section of this chapter we looked in some detail at sense of ownership (SO) and sense of agency (SA) and the problems that arises with these concepts. De Haan and de Bruin spoke of a ‘constant modulation’ of ‘acting and reacting and between forming and being formed.’ A good way to look at this is to see what other terms might be available for us to use instead and see how this can alter how we should view the body. In a similar vein, we’ve looked at the ‘body schema’ and ‘body image,’ but we’ve seen there are problems with them as well when it comes to there being a clear divide between them. One problem is that the terms ‘body schema’ and ‘body image’ do not capture the dynamics of the phenomena that they are trying to specify. In the first part of the project we are currently looking at the ‘Bodily Self,’ and in the second part we will look at the ‘Affective Self,’ but in the lived-through phenomenology of life these really can’t be separated from each other except under certain specific conditions (i.e. pathological conditions, or conditions of isolated scientific experimentation, like the rubber hand illusion). From the time we are born, to passing through infancy and being unable to speak, we live in a world of movement. The intensity and timing of our behaviour creates this ‘affective attunement’ or ‘vitality dynamic’ (as Stern called it). Our movement is not simply a series of sensations following one another; it is a felt phenomenon – it has a phenomenological *feel* to it, it gives us a *meaning* or sense of *dwelling* in the world. Lived experience has a ‘vitality dynamic’ to it, but how can we get a better grasp of this idea?

Sheets-Johnstone also takes issue with the terms ‘body image’ and ‘body schema.’ The term ‘body image’ is misleading because it implies something visual, and begins with a construct we have of our body. The term lacks any sense of animation, yet as we saw in chapter 1, movement and animation is the very first thing we do (even when we are in the

¹⁷⁰ Sheets-Johnstone, Maxine. The Corporeal Turn: An Interdisciplinary Reader. (UK: Imprint Academic, 2009), 253, 350, 360.

womb), and as we will see in chapter 6, there are primal affective action-based behaviours that we possess. As an alternative to ‘body image,’ Sheets-Johnstone suggests ‘corporeal-kinetic intentionality.’¹⁷¹ This makes more sense because (i) the ‘corporeal’ emphasizes that it is relating to – or consisting of – a physical body (but not *just* a body, specifically not an image of a body); (ii) ‘kinetic,’ because it relates to the motion of material bodies and any forces or energy that is connected or associated with it; and (iii) ‘intentional’ because we are dealing with some intention or decision on the part of the being. This phrasing is preferable to ‘body image’ because it encompasses the felt and perceptual experiences we have of – and toward – our bodies, along with the emotional and conceptual understanding we have. It encompasses the phenomenological, the developmental, and the evolutionary.¹⁷² As for the term ‘body schema,’ the problem is that the word ‘schema’ implies a diagrammatic presentation of some plan or structure, it provides us “no sense of the kinetic dynamics that constitute the ‘perceptual alterations in position’” in which the body finds itself.¹⁷³ ‘Schema’ implies something static or positional, something which we would find on an engineer’s blue-print; and the body is not like that. Maintaining balance when standing or walking; or maintaining posture while typing at the computer is not a static occurrence, there is always some ever changing movement occurring to ensure stability. Sheets-Johnstone proposes that “a more appropriate term” would be “corporeal-kinetic patterning.”¹⁷⁴ The reasons are similar to what we saw with her redefinition of ‘body image’: (i) ‘corporeal’ emphasizes the body (but not *just* a body, and especially not a schematic or static body); (ii) ‘kinetic’ emphasizes motion in itself and in relation to other forces acting on the body; and (iii) ‘patterning’ captures for us the fact that familiarity of our body-type – which emerges with us as we grow and develop – establishes patterns of familiarity to us that allow us to consistently maintain balance and posture in our body positions, while allowing that there is still movement involved in doing so (the idea of patterning is especially useful if we think of it as applied to O’Shaughnessy’s proprioceptive ‘origin points;’ we’ll revisit this more in a moment). These terms of Sheets-Johnstone were not initially put forth as part of a purely phenomenological or enactive programme, but, as we shall see, they can be expanded in scope and purpose, and be put to use in support for the Phenomenological-Enactive Minimal Self.

One of the problems with which the analysis of the previous definitions provided us was to show how mechanical and un-alive those terms were. We can see here that terms like

¹⁷¹ Sheets-Johnstone. [The Corporeal Turn](#). 337.

¹⁷² Sheets-Johnstone. [The Corporeal Turn](#). *ibid.*

¹⁷³ Sheets-Johnstone. [The Corporeal Turn](#). 338.

¹⁷⁴ Sheets-Johnstone. [The Corporeal Turn](#). 339.

'body schema' and 'body image' lack something. What we need in our descriptions is what Sheets-Johnstone calls 'interanimate meanings.'¹⁷⁵ These biological aspects of our selves are not part of some "algorithmic machinations or some hypothesized brain entity or module," instead, these "interanimate meanings are dynamically replicable across different sense modalities" through 'affect attunement' as the sense-making individuals that we are.¹⁷⁶ The idea of 'interanimate meanings' that are replicable 'across different sense modalities' ties in well with the enactive idea of agents generating and maintaining themselves through different meaningful patterns of activity.

There are other terms which we can draw upon to further develop the PEMS view. Here we will be further drawing on the work of Maxine Sheets-Johnstone and Daniel Stern. As brought up in chapter 1, I suggested that Daniel Stern's choice of the terms 'vitality affects' and 'vitality dynamics' served well to cover the overall idea of a PEMS. We've just begun to critique terms like 'body schema' and 'body image' for being too mechanistic and lacking the lived animate label that describes what we are, so along with Sheets-Johnstone's terms, Stern's 'vitality affects' and 'vitality dynamics' are much more appropriate in how they convey a description of our actual lived existence. A general term which Sheets-Johnstone favours and which could serve our desire to find an over-arching term which encompasses the phenomenological as well as enactive elements of how a PEMS emerges and develops is: "Kinesthesia – the experience of self-movement."¹⁷⁷ Chapter 1 showed that corporeal-kinetic knowledge is the first thing we see emerge in infants – it is the ground on which everything else emerges – it is not something which we can turn off (although parts of it can be turned off under unusual circumstances, think back to the case of Ian Waterman in chapter 3 regarding the loss of most of his 'body schema'...or corporeal kinetic patterning). "[K]inetic dynamics are kinesthetically felt, which is to say it is experienced in the flow of movement itself, and with a sense of familiarity...generated through kinesthetic memory."¹⁷⁸ The most basic or fundamental kinetic melodies that form the foundation for our life to come are created in our infancy. As daily circumstances unfold in our everyday adult life, our kinetic dynamics seem familiar and yet also connected with whatever new situation we find ourselves confronted with at that moment. This is because the "[k]inetic melodies that are inscribed in our bodies

¹⁷⁵ We will see in chapter 8 an argument from Giovanna Colombetti which will argue that much of our discussion of affects suffers from 'corporeal impersonalism;' something which Sheets-Johnstone's terminology I think helps correct.

¹⁷⁶ Sheets-Johnstone. The Corporeal Turn. 360.

¹⁷⁷ Sheets-Johnstone, Maxine. "Thinking in Movement: Further Analysis and Validations." John Stewart, Olivier Gapenne, Ezequiel A. Di Paolo. Enaction: Toward a New Paradigm for Cognitive Science. (MIT Press, 2010), 173.

¹⁷⁸ Sheets-Johnstone. The Corporeal Turn. 269.

are dynamic patterns of movement. They constitute that basic, vast, and potentially ever-expandable repertoire of ‘I cans.’”¹⁷⁹

Here we can bring back a point made earlier in chapter 3 where we looked at some potential difficulties with understanding proprioception in relation to the views of Shaun Gallagher and Brian O’Shaughnessy. O’Shaughnessy introduced the notion of ‘origin points’ for proprioception. This notion was useful in helping us to explain the starting points for our proprioceptions. The problem was that if our ideas of spatial content are based on bodily sensation feedback, then what is the starting point – or beginning – of this bodily knowledge of ours? If a sensation is based on a previous sensation, the fear is that we are moving towards an infinite regress. O’Shaughnessy tried to overcome this by identifying three origin points. The ‘changeless innate’ was the natural part of the organism (like a finger or toe for us); the ‘developmental-acquired’ represented that natural change to part of that organism (the fingers and toes grow and change as we grow older); the ‘experience-acquired’ was our continual experience of a specific body part, which further expands our ‘understanding.’ These categories of O’Shaughnessy I think fit well with Sheets-Johnstone (as well as the PEMS view overall), and show us how a kinaesthetic memory can be laid down and inscribed in the body giving us our corporeal-kinetic patterning (i.e. the body schema), a patterning or ‘signature’ of our body which then tailors itself to our current situations as our life plays itself out. If you think about, for instance, an infant or young child, the dynamic patterns of its movement – the kinaesthetic feel – are sometimes noticeable when you see the child stare at its fingers, arms or legs, or as it learns something new to do as its ever lengthening arms and legs allow it to reach or move towards something that it couldn’t reach before. The very act of walking can give an infant a kinaesthetic ‘sense’ that can under various circumstances fit within the different categories of the ‘origin points.’ But we can do even more with the idea of kinetic dynamics which we’ve seen from our look at Sheets-Johnstone and at how kinaesthesia can encompass basic corporeal-kinetic patterning and corporeal-kinetic intentionality. Indeed, a kinaesthetic approach can encompass even more aspects of our lived life; bringing back Daniel Stern’s ideas from chapter 1 can help fulfil this goal.

We’ve seen some of the details of a corporeal-kinetic approach, and we’ve thrown a lot of terms around; however, in the end I think the term ‘dynamic forms of vitality’ is preferable as the term that gets to the heart of what the PEMS is. In his writings over time Daniel Stern has used several terms – vitality dynamics, affect attunement, (and from our brief

¹⁷⁹ Sheets-Johnstone. The Corporeal Turn. 255.

look at Papoušek, he contributed a term of his own: "intersubjective emotional relatedness") – yet 'dynamic forms of vitality' perhaps works best since the term encompasses physical and mental vigour, an ability to develop or continue one's existence, and to live and grow; these are all ideas which fall under what we are looking for in PEMS, since they enforce the ideas of agents generating and maintaining themselves, as well as explaining how this provides us with the phenomenological *mineness* and *givenness* that constitutes the subjectivity of our lived experiences. Although the body plays an anchoring role, 'dynamic' emphasizes the constant change that occurs in bodily movement as part of its being-in-the-world; 'forms' emphasizes the various dynamic structures (e.g. proprioceptive origin points, mirror neurons, corporeal-kinetic patterning, and corporeal-kinetic intentionality); 'vitality' places emphasis on the fact that this is something which is lived and experienced. By building up towards using Sheets-Johnstone's terminology, we've interrogated some of the life-less, mechanized terms which dominate in the literature, and replaced them with something more appropriate to explain lived bodily life and existence, and 'dynamic forms of vitality' is perhaps the simplest and most appropriate broad term for all of this. Having explored notions such as self ownership and self agency, and body schemas and body images, and having seen what is wrong with them, and switching to a new type of vocabulary (i.e. corporeal kinetic patterning, corporeal kinetic intentionality, kinaesthesia, and dynamic forms of vitality), we can now see what other ideas vitality can encompass and explain.

Stern places five different categories under the phrase 'dynamic forms of vitality': movement, time, force, space, and directionality/intentionality;¹⁸⁰ we will consider each of these in turn. Movement should be familiar to us by this point. *Movement* is an important aspect of self and has been perhaps the biggest underlying theme making up our discussion so far, and was most recently emphasized as primary during our encounter with the work of Sheets-Johnstone. *Time* is important as well, for all movement has a 'temporal contour' or temporal profile in our experience; a sense of time is essential to our being, it gives us our sense of past, and allows us to plan for – or anticipate – the future. Something else which accompanies movement is the idea of *force*; it is what lies behind – or within – all movement. Movement has *directionality* as well; it is always going somewhere for – or because of – some purpose or *intentionality*.¹⁸¹ If you look at any personal, aware, noetic, reflective aspect of what we think we are and who or what we want to become, all these categories would play a role. But what needs to be emphasized is that these categories have their origin in association

¹⁸⁰ Stern, Daniel. Forms of Vitality: Exploring Dynamic Experience in Psychology, the Arts, Psychotherapy, and Development. (UK: Oxford University Press, 2010), 4.

¹⁸¹ Stern. Forms of Vitality. Ibid.

with lived, pre-reflective bodily movement; *that* is the core of the PEMS from which everything else emerges and develops from and which it always belongs as the foundation. Let us end this chapter by recalling some more of the core ideas of the enactivist part of PEMS and by assessing how we have progressed in our investigation so far.

Enactivism and the Bodily Self: A Summary

We end this chapter by expanding upon the enactive view, based on views given by Giovanna Colombetti and Evan Thompson (which will be developed even more in chapter 9). The arguments we've looked at from Sheet-Johnstone have led us on a path toward a PEMS view; several key quotes from her present themselves as supportive of this view: "change is not brought about only by...something external; it is brought about equally by the self-organizing dynamics of the system itself;"¹⁸² and "[t]he movement that I actually create at any moment is not a *thing* that I do, an action that I take, a behavior in which I engage, but a passing moment within a dynamic process, a process that I cannot divide into beginnings and endings."¹⁸³ We can see that these statements are a virtual match with the enactive framework which makes up the PEMS theory we are arguing for, while also including the phenomenological *feel* that is a part of our everyday existence and which is also a vital and core component of PEMS.

In the introduction we introduced several key areas from within the enactive approach according to Thompson. In what follows we shall revisit the enactive view with Thompson and Colombetti:

1. *Living entities are autonomous agents that can actively generate their own identities.* We have seen that a sense of ownership and a sense of agency cannot be easily separated. The processes that Sheets-Johnstone calls 'corporeal-kinetic patterning' (a dynamic rethinking of the body schema), lays a foundation for later development, and this patterning is something that we hypothesized could be based on the three proprioceptive 'origin points' that Brian O'Shaughnessy spoke about. These base points then expand outward as 'corporeal-kinetic intentionality' (body image) which allows these autonomous agents to generate their own meaning. The results are the 'kinaesthetic melodies', 'kinetic melodies,'

¹⁸² Sheets-Johnstone. The Corporeal Turn. 334 (emphasis mine).

¹⁸³ Sheets-Johnstone. The Corporeal Turn. 34 (emphasis original).

‘affective attunement’, or ‘vitality dynamics’ that create the Phenomenological-Enactive Minimal Self. This is where our (sense of) self and burgeoning selfhood comes from. The phenomenological sense of *mineness* can be seen to arise from our kinaesthetics – the experience of our self-movement.

2. *The nervous system is a non-hierarchical, autonomous system that operates in a circular fashion as networks of interacting, sensorimotor neurons.* This area will be covered in chapter 10 when we shall examine theories of consciousness which support the PEMS theory.
3. *Cognition should be viewed as a type of embodied action.* This idea came alive in this chapter as we encountered Sheets-Johnstone’s and Stern’s views which showed that ‘kinaesthetic melodies’ or the five aspects of ‘dynamic forms of vitality’ are based in – and are a continuous part of – animate movement. Without that first movement within the womb and all that occurs during those first most important months of life outside it, we would not have the cognition, recognition, and interaction that we have. The work of Stern, Trevarthen, and others have set the stage for showing that the bodily interaction between infant and caregiver create kinetic melodies that are kinaesthetically felt and which create an affective attunement between the two of them. Not only is cognition based in embodied action, the infant studies and the discussion of chapter 3 have begun to show us that embodied action creates cognition (this will be explored further in the next chapter on gestures, and in Part II when we explore feelings, moods and emotions).
4. *A cognitive being’s world is a relational domain that is brought forth through their agential coupling with the environment.* Affects play a vital role in self-world disclosure, and for that reason this relational domain will be explored further in Part II.
5. *Experience is essential to an understanding of the mind, and this requires insights from cognitive science and phenomenology.* We have begun to see how the sciences and phenomenology have a role to play in understanding the minimal components of *ipseity*.¹⁸⁴

In chapter 4 we’ve seen that things are complicated when it comes to understanding the noetic and pre-noetic character of our existence. Drawing on de Haan and de Bruin in regards to a dividing line between self ownership and self agency, and Sheets-Johnstone’s

¹⁸⁴ Colombetti, Giovanna, and Evan Thompson. "The Feeling Body: Toward an Enactive Approach to Emotion." *Developmental Perspectives on Embodiment and Consciousness*. Eds. W.F. Overton, U Mueller, and J. Newman. (NY: Erlbaum, 2008), 55-56.

critique of the body schema and body image, we've seen that terms like body schema and body image promote a static, impersonal, engineering blueprint-style view of the lived body that does not take into account its dynamic aspects. As a response to this, we've changed 'body schema' to 'corporeal-kinetic patterning' and 'body image' to 'corporeal-kinetic intentionality' to do justice to the animate and meaningful aspect of lived bodily life. But even this was not enough, since it still promotes this (somewhat artificial) divide in our kinetic dynamics, so we've put forward the idea of kinaesthesia, for the idea of kinetic dynamics and melodies "are descriptive of the dynamic phenomena themselves [and] not a mechanical reduction of them."¹⁸⁵ The overall argument we've tried to make in chapters 3 and 4 on behalf of PEMS is that although the kinetic melodies we have of ourselves lie in the background, these kinaesthetics are not something which is entirely outside of our awareness. The background we are referring to here is that which is pre-noetic or pre-reflective, and the awareness is the phenomenological awareness which provides our experiences with that natural *givenness*. The kinetic dynamics that are underway are not only there if we focus on them (with a type of corporeal-kinetic intentionality), they are present and ongoing (a corporeal-kinetic patterning), and this ongoing process gives our PEMS its own unique and personal kinaesthetic melody. Kinetic dynamics are kinaesthetically – or phenomenologically – felt or experienced in the familiar flow of our constant movement.¹⁸⁶ These kinaesthetic melodies are the 'forms of vitality' that make up the PEMS. This elaboration and expansion which we've undertaken, has focused on corporeal kinetic patterning/corporeal kinetic intentionality and sense of ownership/sense of agency; this has given us a broader view which allows us to move away from the somewhat reductionist orientation we've adopted when looking at mirror neurons, and the issues that Gallese and Sinigaglia raised in connection with proprioception. We can now see much more clearly that a broader perspective needs to be taken. The dynamics of running across a field to catch a frisbee, for example, requires a constant give and take between corporeal-kinetic patterning and corporeal-kinetic intentionality which is best explained in the PEMS kinetic dynamics model that is being argued for. After spending this chapter sifting through some important conceptual ideas, we have arrived at a vocabulary which can encompass the primary and most important ideas for the PEMS theory. The next and final chapter of Part I will look at gesturing, where we'll see how the body plays a role in something traditionally associated with abstract, language-based, mental processes. What we will find in the next chapter is that corporeal-kinetics has a role to play in the development and expression of thought and language. This will further bolster the

¹⁸⁵ Sheets-Johnstone. The Corporeal Turn. 262.

¹⁸⁶ Sheets-Johnstone. The Corporeal Turn. 269.

argument that PEMS wants to make by showing how something normally considered firmly part of the narrative aspect of self, in fact has a basis at the pre-linguistic bodily level.

Chapter 5: Gesturing – The Sensorimotor basis of Language and Thought.

"Speech, in the speaker, does not translate ready-made thought, but accomplishes it. [...]The spoken word is a genuine gesture, and it contains its meaning in the same way as the gesture contains its. [...] Faced with an angry or threatening gesture...the gesture does not make me think of anger, it is anger itself."¹⁸⁷

Let us take stock of what we have covered so far. We first looked at the sensorimotor basis for the minimal self in early infant understanding of objects and others, through bodily exploration. We then saw how even a neuronal approach to the self was closely associated with an understanding of bodily intentions. Through our look at corporeal kinetic patterning, proprioception, and corporeal kinetic intentionality, we saw on a larger scale how important the body is to the emergence and development of self. As we near the completion of our investigation of the bodily basis for our sense of self, there is one other area that should be looked at: the sensorimotor basis for language and rational thought. Much of recent (analytic) philosophy and science has emphasized ideas such as a 'language of thought,' or the importance of 'propositional attitudes,' where the argument goes that our way of expressing ourselves, and the way in which we try to achieve our desires, or develop our beliefs, is based in some type of rationally structured system in our brain. This chapter will take a closer look at gesturing, and show how this type of embodied movement relates to – and indeed even precedes – language. The argument to be made in this chapter is that higher-order language, communication, and thought (things connected with the narrative self) are phenomena which are generated out of bodily movement; we will see that gesturing reflects something personal and unique about us – it expresses personal thoughts and desires to others, and thus it provides another key component of the PEMS.

In our inquiry into gestures and what their role is in communication and thought, we will be examining the following areas. First, we will be investigating how gestures pave the way for the development of language. By delving into the cases involving children, we will see how gesturing plays a facilitating role in early language development. Next, we will be scrutinizing how sighted people, and people blind from birth, use gesturing to communicate. We will see here that blind speakers use gestures not only with sighted individuals, but even with other blind speakers. This will demonstrate that gesturing and body language represents

¹⁸⁷ Merleau-Ponty. Phenomenology. 207, 213, 214 (emphasis original).

a way of thinking which both precedes conventional, conscious, cognitive thought and language, and this means of expressing and communicating continues to accompany these higher-order phenomena in a very important way in adulthood, even among those who can't see. Then, we will look at how gesture differs when it is used on its own, and when it is used in conjunction with speech. Here we will see that when gesturing is used *with* speech, gestures are unsegmented and image-like in form, and thus do not provide us with the same type of information that we find in speech. However, in a different case when gesturing is used *as* speech, then it takes on a linguistic structure. This section will be relying heavily on work done by the psychologist Susan Goldin-Meadow and her colleagues. What will this do for PEMS? What we will see is that gestures have a personal nature of expression, something important for us in our development as persons. How and what we express says something about us – it is our own unique, personal, individualistic way of expressing our thoughts and desires to others. Additionally, whereas much work in language has been tied in with narrative notions of self, this chapter and the research cited should demonstrate that much of what we thought of as based in narrative, does in fact have a strong basis in the body, and indeed supports a PEMS view.

Beginning with children, it seems that they pass through several steps in the transition from gesture to spoken language. In one particular research project, M. W. Alibali and Susan Goldin-Meadow looked at the short-term development of mathematical equivalence and problem solving; they saw two to three different steps that the children went through; (i) The child began by producing gesture-speech matches which conveyed procedures which were incorrect; (ii) a period of instability occurred where the child produced gesture-speech mismatches; and (iii) a state of stability occurred where the gesture-speech matches represented correct procedures.¹⁸⁸ In these cases some of the children progressed from stage (i) directly to stage (iii), and others passed through the intermediate stage (ii). An interesting result of this work is that those children who went directly from stage (i) to stage (iii) were less able to generalize than those who passed through the intermediate stage (ii). Goldin-Meadow thinks this might be because those who skipped stage (ii) didn't learn the concept as thoroughly.¹⁸⁹ The reason why mismatch is so important is that it serves as an index of variability, and variability is something essential to developmental progress. So that children who produce gesture-speech mismatches are showing more than one approach – and trying different types of procedures – to manage a problem. A final and important idea learned

¹⁸⁸ Goldin-Meadow, Susan. "The Role of Gesture in Communication and Thinking." (Trends in Cognitive Science, 3:1, 1999), 424-425.

¹⁸⁹ Goldin-Meadow. "The Role of Gesture." 425.

about from this research, was that the 'extra' ideas that were expressed in the mismatches were *only* found in the gestures, and were *not* found in speech. These mismatches were only noticeable by observing the gestures, and not by listening to what the children said. So we are seeing that expressions of thoughts, desires, or personal preferences, have an important bodily component in their development. Next we'll take a closer look at the relationship between gesture and language development at our earliest stage of development. The key idea to take from this is that thinking in movement – in animate being – is a vital component in development of thought and self. So, just as infants experience their first thinking in movement (during the 'emergent' and 'core' self phases of Stern's layered self view), the evidence continues for early childhood as well. We can see a continuum building where the body and movement remain important not only for the embryo and infant, but also play a priority role for the young child as well as it comes up with ways to reach goals or to express desires.

Children begin to produce their first gestures usually after the ninth month, with verbal language following after that. Even after they begin using language, they still use gestures in combination with words. Jana Iverson and Susan Goldin-Meadows looked at children from 10-14 months of age, when the arrival of one-word speech occurred; and age 17-23 months when two-word combinations arrived. The goal was to see if "gesture serves a facilitating function for language learning."¹⁹⁰ They did this by paying attention to how communicative behaviour was expressed by either speech, gesture, or speech *and* gesture.¹⁹¹ When it came to object reference and the first appearance of lexical development, they found that gesture appeared to provide the children the means to refer to objects for which they had not yet developed words.¹⁹² Initially they found that more items were represented in gesture than in speech, with there being many instances when children would switch from gesture to speech to express themselves (with the typical result being in a direction from gesture to speech rather than speech to gesture). The results showed that children typically produced a gesture for a specific object three months prior to the time they developed a word for it.¹⁹³

When we move from object reference, and first lexical development, to the point when gesture and two-word combinations appear, something new arises. Here Iverson and Goldin-Meadow noticed that the children 'supplemented' and 'complemented' their gesture-

¹⁹⁰ Iverson, Jana M., and Susan Goldin-Meadow. "Gesture Paves the Way for Language Development." (Psychological Science, 16:5, 2005), 367.

¹⁹¹ Iverson and Goldin-Meadow. "Language Development." 367-368.

¹⁹² Iverson and Goldin-Meadow. "Language Development." 369.

¹⁹³ Iverson and Goldin-Meadow. "Language Development." *ibid.*

plus-one-word combinations before the arrival of two-word combinations. Children 'supplemented' by way of pointing at an animal such as a bird and saying a word such as 'nap;' they 'complemented' by pointing at a bird and saying 'bird,' before arriving at two-word utterances – 'bird nap.'¹⁹⁴ Note that a supplementary gesture-plus-word combination is communicating two distinct semantic elements in a single communicative act, much like a two-word combination does. Iverson and Goldin-Meadow found that those children who used supplementary gesture-plus-word speech made quicker transitions to two-word combinations. This ability to convey two distinct semantic elements in a single communicative act seems to assist in developing two-word speech.

Iverson and Goldin-Meadow argue that gesture seems to play a facilitating role in early language development. But how does it do this? Several possibilities present themselves. First, gesture may serve as a signal to the child's caregiver that it is ready for a certain type of verbal input. If a child points at her mother's hat and says "mommy," her mother might respond by saying, "yes, that is mommy's hat," in effect translating the gesture-plus-word combination into a more complicated multi-word utterance. A second possibility is that gesture affects the learners themselves. Gestures seem to exploit different representational resources than spoken language. Gestures rely on the visuo-spatial memory, whereas spoken language relies on verbal memory. We have already seen with our look at mirror neurons that spatial understanding begins to occur while we are still in the womb, so this explanation would fit well with what Goldin-Meadow and her colleagues have discovered with gesture being a precursor to – or at least appearing earlier and assisting – language development. Lastly, because gesture relies on a different representational system than language, it may reduce the demands on memory. It may be cognitively easier to convey a proposition in a gesture-plus-word combination than trying to use multiple words. What we can say, however, is that gesture seems to promote learning and seems to facilitate change in a child's development of language.

Let us explore this some more. Sheets-Johnstone, drawing on work from psychologist Lois Bloom, has shown "single-word utterances are in fact 'conceptual rather than linguistic.'" This means that if an infant says 'buh-bye' to someone, this is connected with the person leaving them, rather than, say, a locutionary statement, or saying something separated from the effect or intention of the statement. Bloom says that "[s]ingle words are initially pared

¹⁹⁴ Iverson and Goldin-Meadow. "Language Development." 369.

with *happenings* of some kind or other.”¹⁹⁵ Thus, if a child says ‘chirp, chirp’ when it hears a bird outside, it is saying a word based on perceived happenings or action. If the child says ‘custard, here,’ it is asking for food to be brought over. The verbal expressions of the child are tied to movement and change (either of another object or person, or of its own body). We saw in chapter 1 with experimental evidence from Stern along with Meltzoff and Moore on infants imitating tongue protrusion, identifying pacifiers by touch, and watching moving objects temporarily disappearing from view, that the infant’s understanding of itself and others in the environment is based in movement and change of both its own body and the objects/persons near it. What Bloom’s research seems to show for Sheets-Johnstone (building on what we saw in chapter 1) is that an infant’s idea of objects is not tied to a mere visual experience of them – that is *looking* at them – but noticing what is *changing* about them.¹⁹⁶ Quoting Bloom, Sheets-Johnstone says: “when [children] begin to say words, their earliest words express something about objects that move.”¹⁹⁷ What the research in infant and early childhood development shows is that before linguistic concepts and categories arrive, there is a conceptual foundation to be found in movement and change. The work here in gesture/movement/change preceding and leading up to linguistic competency, is mirrored in what we saw in Meltzoff and Moore’s work in a bodily-self knowledge preceding and understanding of others’ body language. Before we understand the other’s body, we have to possess a familiarity with how our own body moves, and this is true in language as well – our linguistic capabilities are based in bodily concepts of movement and change. Chapter 1 presented one look at what the body does and means for us; now we can see that it has an important foundational role for language as well.

We are now going to move into studies of adults, and see how gesture and language relate once both systems are more fully developed and integrated. We will also be looking at how blind and deaf people use gestures, and see to what extent they are similar to or different from those who are not sight or hearing-impaired. This should give us further insights into how gesturing provides us with an embodied way to communicate and think, and thus plays a role in how we express our self.

Iverson and Goldin-Meadow have also looked at the differences and similarities between blind speakers and listeners and sighted people. They wanted to discover why people gesture. They thought exploring the mechanisms as well its function would assist in

¹⁹⁵ Sheets-Johnstone. [The Corporeal Turn](#). 41 (emphasis original).

¹⁹⁶ Sheets-Johnstone. [The Corporeal Turn](#). 41-42.

¹⁹⁷ Sheets-Johnstone. [The Corporeal Turn](#). 42.

answering this. In one study, Iverson and Goldin-Meadow wanted to know if speakers gesture because they see others gesture and the speakers then use this in turn as a model by which they learn to move their hands when speaking. In a second study, they wanted to know if the reason people gesture is because they think the gestures may assist the listener in being able to comprehend what they are speaking about. In both studies they used both sighted individuals, and individuals who had been blind from birth.¹⁹⁸

In study one, they classified hand movements as gestures only if there was an identifiable beginning and end that co-occurred with speech. What they discovered was that there was not a significant difference between blind and sighted speakers when it came to the number of gestures that they used. They found that blind individuals produced spontaneous gestures when they spoke even though they didn't have any visual cues, and the gesturing they engaged in resembled that of the sighted participants. From this they argue "the emergence of gesture in the speaking process apparently does not require the opportunity to watch others gesture."¹⁹⁹ In this same study they blindfolded sighted individuals to see how they might alter their gesturing, and found that the blind-folded subjects proceeded to "produce advanced explanations in gesture."²⁰⁰ That is, through their perceived deficit, they tried to add more to their gestural explanations. They also noticed that sighted participants had a tendency to hold their gestures in place over certain task objects longer than blind or blindfolded individuals, who instead added some type of motion. But except for the instance when sighted individuals had their sight removed, overall, there was no real difference between those who were born sighted and those who were born blind. The conclusion? The appearance of gesturing does not seem to require the ability to watch others gesture.

In study two, they wanted to test whether gesturing might be used as a way to assist the listeners in comprehension. Again, sighted participants and participants blind from birth were tested. They found that even when the blind subjects knew they were communicating to a blind experimenter, they still used gestures. And that this rate of gesturing was not reliably different from that of blind subjects communicating to a known sighted experimenter. The conclusion that Iverson and Goldin-Meadow arrive at? That "gesture does not appear to depend on speakers' recognition that their gestures enhance communication to the listener."²⁰¹ They argue that our ability to gesture seems to be an inherent part of our

¹⁹⁸ Iverson, Jana M., and Susan Goldin-Meadow. "The Resilience of Gesture in Talk: Gesture in Blind Speakers and Listeners." (*Developmental Science*, 4:4, 2001), 416.

¹⁹⁹ Iverson and Goldin-Meadow. "Resilience of Gesture." 420.

²⁰⁰ Iverson and Goldin-Meadow. "Resilience of Gesture." 418.

²⁰¹ Iverson and Goldin-Meadow. "Resilience of Gesture." 421.

speaking process. This again refers to a point that was mentioned previously: that the function of gesture may be not so much to assist the listener to understand communication, but rather is some additional way for the speaker to express their personal thoughts in a way that may be too difficult to put into speech. Gestures may also be (to quote Stern) part of the 'continuous music of being alive,' in a way in which we might - continuing with the musical analogy – interpret as 'conducting' ourselves.

We have seen in this chapter that gesturing seems to precede and lay some of the foundation for spoken language and communication, and also that gesturing may assist us in our ability to think. Let us continue this inquiry by asking: Is gesture thought? And what type of communication is gesture? For this part we are going to look at deaf people who have taken the use of gestures and used it *as* their language of communication, and compare it with non-deaf people who just use gesture in conjunction with their verbal communication.

A child that is deaf is in a way deprived of a model for language, since they are not able to hear spoken language; children that find themselves in such circumstances make up for this deficit by gesturing. Goldin-Meadow's research in this area has shown that the gestures that deaf children create in place of speech are quite different from the type of gesturing that hearing people produce. The gestures that hearing people produce which accompany speech are not language-like in form, they are more imagistic, and more closely tied in with the visuo-spatial part of our brain. Deaf people, on the other hand, produce gestures which *are* language-like in form.²⁰² Interestingly, this remains true even when the deaf child is communicated to by a hearing parent who would communicate in the image-like gesturing that hearing individuals typically communicate in. Whereas the hearing adults communicated in the fragmented, visual, gesturing, the deaf children's gestures had the hallmarks of language. That is, their gestures had some of the characteristics that spoken words have, for example, they had *stability* (they did not change much from situation to situation), and they were *categorical* (they were composed of a limited set of forms, each with a specific meaning). The gestures which created sentences had certain things in common with spoken sentence rules, such as *word ordering* (the gestures were consistent with thematic rules of word order in sentences). There were also basic language-use rules which the deaf children used in their gestures. These included *here-and-now talk* (gesturing to make requests, comments, or queries), *displaced talk* (communication about past and future events), *narratives* (telling stories about self and others), *self-talk* (gestures used to communicate to oneself), *generic*

²⁰² Goldin-Meadow, Susan. "Talking and Thinking With Our Hands." (Current Directions in Psychological Science, 15:1, 2006), 34.

statements (making generic gesture-statements about animate objects), and *meta-language* (referring to the gestures of oneself and others).²⁰³ The deaf children received as input gestures which were not language-like in form from their hearing parents, but they produced in output gestures which *were* language-like in form. What is striking is that the appearance of these properties arose even though they were not found in the gestures of the others.

So far in our discussion in this chapter, we have seen that gesture precedes language. We have also seen that gesture is used by blind people who have never seen, and communicate with others who cannot see. And we have seen in deaf children without a language that gesture takes on the role of language for them. A great deal of discussion has been made recently about a 'language of thought,' but what can we say about the relationship between *gesture* and thought? Goldin-Meadow says, "when faced with a difficult problem to solve, people find it helpful to externalize their thoughts...it may be that gesturing lightens the cognitive load."²⁰⁴ It seems to lighten cognitive resources and allows them to allocate some resources elsewhere. Another thought is that it may not be lightening the load as much as simply moving it to a different area. So, instead of relying on verbal memory, some of the cognitive load is moved into the visuo-spatial memory. Of course, if this does occur, then one would expect that performing a spatial task would be more difficult (think of attempting to solve a spatial task – such as trying to recall a previous seen visual pattern – while at the same time gesturing), yet, it seems that in these cases that even if the speaker's second task is a spatial one, the gesture *still* lightens the cognitive load of the individual.²⁰⁵ As we can see, many questions still remain on this matter. What should clearly emerge as important from what we've seen so far is that embodied communication plays a very important role in the development of spoken language in normal sighted individuals, in blind individuals; and in deaf people, it can even take on the role of language. And one conclusion that can be drawn from this is that gesturing seems pivotal in helping structure our ability to think and express ourselves. Next we will look at some evolutionary ideas regarding gestures, and then try to draw some broader conclusions.

Consider an evolutionary perspective. The communication system that is used by primates is partly gestural, it is in part by looking at their posture and how they move, that a primate is able to read meaning and intentions into the others in their group, or in a rival group to determine their intentions. Thus, from an evolutionary standpoint, gesturing in some

²⁰³ Goldin-Meadow. "Talking and Thinking." 35, Table 1.

²⁰⁴ Goldin-Meadow. "Talking and Thinking." 36, 37.

²⁰⁵ Goldin-Meadow. "Talking and Thinking." 38.

form is important as a way of communicating intentions and thoughts.²⁰⁶ In the case of primates – such as chimps – their gesturing requests things in the here-and-now rather than human children who use gestures to not only request, but even comment on, objects in their surroundings. Even chimps trained in gestural communication systems rarely use this system to comment. From the perspective of brain anatomy, Broca's area (which is a part of our brain tied-in with language), is homologous with the pre-motor cortex in primates.²⁰⁷ So from the evolutionary connection we see that there seems to be some connection between gestures as expressing meanings and intentions in pre-linguistic primates; and in similar areas of the language area of our brain (Broca's), which tie-in with the motor parts of other primate brains. This is possible evidence for gesture functioning as a road to language.

Now we enter into some larger questions. If language is in part based on – or emerges from – gesture, and if gesture is sensorimotor based, then is language and higher-order thought in some way based on corporeal-kinetic patterning? Let's put this another way. We have seen that our corporeal-kinetic patterning (CKP) underlies our most basic bodily movements in its daily and practical dealings with the environment. We also have something like the corporeal-kinetic intentionality (CKI), which takes us out of the background and pre-reflective level of bodily awareness, and into something which is more consciously attended to. But CKP is still the core aspect of our bodily self. Where, then, does gesturing fit in? Does the fact that it presents some personal way of expressing our desires, and our conscious thoughts make it part of our CKI? Or is the fact that many, if not most, of its operations seem to occur underneath our conscious awareness move it more into our CKP? In the words of Shaun Gallagher: “can we say that part of what it takes to generate a linguistic act (a gesture or a speech act) depends on the body schema [CKP]? Or is language something that transcends embodiment?”²⁰⁸ To answer this, we can use two conceptual categories that he uses: we need to understand better whether gesture is purely *locomotive* based (which would categorically fit it within his first question, and which would make it related to CKP), or whether gesturing is more based on *instrumental* concerns – movements that serve to support communicative acts (which is Gallagher's second question, in which case CKP would play a lesser role, and CKI might be more important). If we revisit the case of Ian Waterman (the man who lost his pre-reflective CKP, but still possessed and replaced it with his personal CKI), we discover that when his neuropathy first set in, he not only lost control of his movement, he also lost the ability to gesture. Once he regained some control of his posture and some basic movements, his ability

²⁰⁶ Gallagher. *Body*. 127.

²⁰⁷ Gallagher. *Body*. *ibid*.

²⁰⁸ Gallagher. *Body*. 107.

to gesture also returned. Interestingly, where he had to consciously attend to his bodily movements with his CKI, his gesturing seemed to be spontaneous and take place on its own (larger, more encompassing gestures *do* require some conscious effort on his part and tend to be slower and more drawn out; small movements, on the other hand, seem to occur without conscious effort, and are quick and well synchronized).²⁰⁹

Shaun Gallagher, having looked at Waterman's case, thinks the conclusion we can draw is that gesturing *is not* a form of instrumental action, and not entirely locomotive either, but instead a form of expressive action. He says, "Gesture is not a form of instrumental action that takes place within a virtual or narrative space. Rather, gesture is an action that helps to *create* the narrative space that is shared in the communicative situation. This suggests that it is part of and is controlled by a linguistic/communicative system rather than a motor system."²¹⁰ The reason why, is that if Waterman has truly lost control of his CKP, and if gesturing was purely locomotive-based, then he shouldn't be able to gesture (again, however, we need to keep in mind that Waterman still has proprioception above the neck). Gallagher thinks that instead of gesture being CKP based, or CKI based, it is a linguistic and communicative process. What is this linguistic/communicative process? Gallagher says gestures involve a "mapping of meaning onto a linguistic space."²¹¹ What he argues for is an 'Integrative Theory of Gesturing,' which is composed of three components: (i) it is *embodied* in that it is "constrained and enabled by motoric possibilities;"²¹² (ii) it is *communicative* in its pragmatic intersubjectivity; and (iii) it is *cognitive* in that it contributes "to the accomplishment of thought, shaping the mind."²¹³ Let us unpack and explore these ideas further and see how compelling Gallagher's theory is.

First of all, Gallagher says that his 'Integrative Theory of Gesturing' is embodied. Gesturing is *embodied* because it is based in – and constrained by – our motoric possibilities. This, I think, is largely uncontroversial, and I think it is fair to say that any theory of gesturing would have to include this commitment. His second point is that it is *communicative*. What is meant by this? It is communicative in his view, in that it is pragmatically intersubjective. As we have seen, aplasics, who are born without limbs, sometimes suffer from phantom limbs. Sometimes aplasics claim that they are gesturing with these non-existent limbs.²¹⁴ According

²⁰⁹ Gallagher. *Body*. 111, 116.

²¹⁰ Gallagher. *Body*. 117-118 (emphasis original).

²¹¹ Gallagher. *Body*. 120.

²¹² Gallagher. *Body*. 123.

²¹³ Gallagher. *Body*. *ibid*.

²¹⁴ Gallagher. *Body*. 121.

to Gallagher, this shows that gesturing does not depend on any “specific peripheral feedback;”²¹⁵ however, an alternative explanation could be that this is based on some type of innate CKP.²¹⁶ In our previous look at congenitally blind people, we saw that they gestured even though they had no previous visual model in which to develop this bodily reference. Again, though, this might only argue against a CKI basis that relies on a more noetic interaction, but a pre-noetic CKP that had developed when the child was in the womb, and in its first few months after birth when it was handling other objects, could still provide a foundation to gesturing. Having said all this, it does seem uncontroversial that there is something communicative about gesturing. The issue is: in what sense communicative? Gallagher thinks that “gesture is essentially language and functions primarily in communicative contexts.”²¹⁷ However, only in deaf people does it develop into an actual stand-alone linguistic system, for everyone else it is something which helps *lead us into* spoken language, and then continues to *supplement* it. So I would agree that gesturing *is* communicative, but *what* this communication consists in is still up for discussion. To call it ‘essentially language’ may be too strong a statement. Lastly, we arrive at Gallagher’s category of *cognitive*; that gesture *contributes to the accomplishment of thought*. Although we may see a connection between gesturing and speech, gesturing, unlike spoken language, does not possess as many social conventions; gesturing is something which is much more personal or individual in its manifestations – it “is the injection of personality into language.”²¹⁸ This last category suggests that gesturing represents that ‘personal touch’ to our ability to express or articulate something which we want to express; it *accomplishes* that part of our personal thoughts. As we saw in the infant gesture studies earlier, it is at the level of the minimal self where we see gesturing playing a role – reflecting our personality and expressing desires and preferences in the step towards language and narrative development. The three categories making up Gallagher’s ‘Integrative Theory of Gesturing,’ although not perfect, do highlight the three main important issues which make up what gesturing means and does for us.

²¹⁵ Gallagher. *Body*. *ibid*.

²¹⁶ Our discussion in the previous chapter of the CKP and related areas made the case that ‘changeless-innate’ aspects of a human – like a hand, toe, or foot – had to already exist in the person while they were in the womb, and that the CKP (and other things like mirror neuron development) were based on this existing organ, and its movement and interaction with the environment. However, it is possible – and an intriguing possibility – that although some people may be born without a certain feature – such as a hand, toe, or foot – that there is still some CKP *for that nonexistent limb*. This may be traced back – evolutionarily speaking – to a broader primate level. We will explore an aspect of this in the next chapter when we examine primal affects and urges that are movement based, all of which assume a certain body morphology for the organism to succeed in its tasks.

²¹⁷ Gallagher. *Body*. 118.

²¹⁸ Gallagher. *Body*. 126.

We have a strong bias in regards to language use. We refer to infants as ‘pre-linguistic,’ and speak of our hominid ancestors as having ‘proto-languages.’ This use of language implies a bias towards anything that uses language as being ‘better’ than those that do not. The research explored in Chapter 5 is important, because it has looked at language and rather than accept it as the primary point of interest or focus, it has tried to show that even spoken and symbolic language use has a basis in movement. Indeed, we could say (as Sheets-Johnstone does), that instead of referring to infancy as pre-linguistic or proto-linguistic, that we should think of language as ‘post-kinetic.’²¹⁹ This should not be viewed as a way of trying to diminish the importance of language and symbolic language use, for if we want to understand the autobiographical or narrative aspects of self, culture, and all that we as human beings have accomplished, then language is absolutely vital for this. What chapter 5 has done, however, is show that regardless of how important language *becomes* for us in our later development, that it has its *basis* in corporeal-kinetic dynamics.

Evidence for ‘thinking in movement’ expanded in our look at adult cases of gesture and language in blind and deaf people. Think again about the conclusions of studying blind individuals and gesturing. Iverson and Goldin-Meadow concluded that gesturing seems to be an intrinsic part of our communication process and isn’t based on the speaker recognizing the gesture as some kind of enhancement to the listener. The gesturing may instead be some additional way for the speaker to express their own thoughts in ways that is difficult to put into speech. These conclusions support the Phenomenological-Enactive Minimal Self (PEMS) view which I am advocating, that even when we have moved into adulthood and into an autobiographical or narrative aspect of self, that what makes up the PEMS is still there contributing and playing a role.

Let us reconsider the studies on deaf individuals and whether gesturing actually constitutes ‘thought’ (for one of the arguments being made is that we ‘think in movement’). A child born deaf, because they cannot hear, is deprived of a model for spoken language; they make up for this by gesturing. The research we looked at showed that the gestures they develop are different from those of hearing people. The gestures of hearing people *accompany* their speaking, and are imagistic and not language-like in form, whereas deaf people *gesture in place of* speech, and thus it *is* language-like in form. This remained true even if the deaf person was communicating with a hearing person gesturing in the image-like form. Deaf people in effect *convert* their gesturing into a form of language if they are not able to use

²¹⁹ Sheets-Johnstone. The Corporeal Turn. 50.

language verbally. These studies lend evidence to the idea that not only does gesturing lead up to spoken language and expression, but if spoken language is not available, then the gesturing itself *becomes* this means of expression. Gesturing is a vital component of thought and expression on multiple levels; it helps structure our ability to think and express ourselves.

This chapter began with a quote from Merleau-Ponty. Merleau-Ponty thought that language ‘accomplishes’ thought. And he referred to ‘the spoken word’ as ‘a genuine gesture,’ which ‘contains its meaning in the same way as the gesture contains its.’ For him, an angry gesture doesn’t make one think of anger, it *is* anger. From what we’ve seen in this chapter, he seems to be largely right. It is perhaps fair to say that thinking occurs *partly* in the gesture; sometimes it is communicative. The gesture is part of the process by which the minimal self is formed. Language is a means of expressing thought which has a stronger, more abstract, cognitive emphasis, whereas gesturing has a stronger motoric basis, and represents our more individual personality. But as we’ve seen throughout these sections, it is the sensorimotor elements of the body which seem to hold priority over the cognitively conscious aspects of ourselves.

With this chapter we’ve looked at how gesturing fits within the categories of corporeal-kinetic patterning (CKP) and corporeal-kinetic intentionality (CKI). Let us now see how this fits in within our larger and more encompassing forms of vitality (or corporeal-kinetic model). A question we can ask is: does language depend on and emerge from our CKP/CKI, or does it in some way transcend it? Ian Waterman was an individual whom we looked at in chapter 3, and revisiting him here might be helpful. At age 19 Waterman lost his CKP from the neck down due to sensory neuropathy and had to reconstruct it from his body image. We saw that although somewhat helpful in framing the issues we were exploring in this area, there were also problems, since he *had* a CKP up until age 19, and when he lost it, it was only from the neck down. Nonetheless, it did highlight some important issues for us to think about. When it came to gesturing, Waterman lost the ability to gesture when he lost control of his posture and basic movements, and it only returned when he regained some control over these areas. However, whereas he only got his posture and movement back when he concentrated on them, his gesturing returned as a spontaneous action that seemingly took place on its own. This suggested to Shaun Gallagher that gesture did not come from the practical motoric system, but was instead expressive and controlled by the linguistic/communicative system that lay beyond the CKP/CKI systems. Gallagher argued that this expressive intersubjectivity is something which, although constrained by our motoric systems, has a communicative – language component. Gallagher, I want to argue, has gone too far in his emphasis on gestures

being controlled by the linguistic/communicative system. What we need to do instead is see this as all part of the dynamic forms of vitality that make up our kinaesthetic experience. In the words of Sheets-Johnstone: “there is a richly subtle and complex nonverbal world that is out there from the beginning of all our lives, a dynamic world that is neither mediated by language nor a stepping stone to language, but that is literally significant in and of itself.”²²⁰ The evidence that we looked at showed that only with deaf people did gesturing evolve into a structured language, the rest of the time gesturing was something *personal*, it is a means of how we accomplish the expression of our personal thoughts; something which makes up our minimal self. It contributes to our autobiographical and narrative self, but it has its beginnings in the PEMS and permeates our entire being. We have seen that language and communication have a gestural base. Although gestures can’t be entirely reduced down into the PEMS, the PEMS does seem to play a role even in something as important as the expression of thoughts through various modes of communication (the expression and exchange of vitality affects between infant and caregiver is one means of communicating basic desires, gestures, as a means of transition into spoken language, is another). The PEMS has shown us that it is a vital part not only in how we understand and move about within our environment, but that it even underlies and plays a role in how we think and express ourselves.

²²⁰ Sheets-Johnstone. The Corporeal Turn. 48.

Conclusion to Part I

"Our own body is in the world as the heart is in the organism: it keeps the visible spectacle alive, it breathes life into it and sustains it inwardly, and with it forms a system."²²¹

The conclusion to this part is going to serve two purposes. First, it is going to summarize what we have encountered so far in our journey, and look at the case that has been made for a Phenomenological-Enactive Minimal Self. The second purpose for this conclusion is to point out some of the questions that were left hanging, unanswered, or undeveloped, regarding the phenomenological and enactive components of the self. Thus, it will give us a hint as to what will lay ahead in part II.

The overall theme and argument of this first part was to look at how we are embodied and enactive beings in the world, and that it is through bodily exploration with the environment and others that our earliest phenomenological sense of minimal selfhood emerges and develops. Another argument that was being made was to show that the animate body forms the basis for our cognitive thought, understanding, and meaning. That is, the bodily basis for the minimal self also provides us with one of the elements of the robust – narrative – self. Part I was the first part of my case for a Phenomenological-Enactive Minimal Self.

Chapter 1 showed us that from the time we are in the womb to the very earliest months of life after birth, the infant is engaged in a sensorimotor exploration of itself, objects, and others. We saw that brain and body develop together in interaction through an enactive mutual process of interacting with and understanding the world. And it is through this bodily exploration of the world that our earliest phenomenological sense of *mineness* and self-meaning emerges. The body, in its explorations, provides a foundation – and gives structure – to our earliest sense of self. We saw that these ‘dynamic vitality affects’ are based in an enactive sensorimotor foundation. It is in the earliest stages of an infant’s development where we can see the beginnings of the PEMS and robust aspects of self emerge.

Chapter 2 delved into mirror neurons. The work in this area demonstrated that even a neuronal focus on understanding action required us to realize that it is the body, at a pre-reflective level, which is engaged in understanding motor *acts* within a *situation*, rather than in

²²¹ Merleau-Ponty. Phenomenology of Perception. (UK: Routledge, 1962), 113.

some type of analysis of *individual movements*. In most situations where we are interacting with others, we have a sense of immediate meaning, mirror neurons provide us one of the ways in which we arrive at this primal intersubjective understanding of others. The researchers on mirror neurons alluded to this basic ‘meaning’ and ‘understanding’ which the mirror neurons seemed to possess of intentional motor chains. The ‘immediate resonance’ with others is a key element of self development, and mirror neurons play a role in this. This chapter hinted at the pre-reflective phenomenology of self-other understanding, the goal was to explain that this represents part of an enactive bodily basis to understanding the PEMS.

Chapter 3 took us out of the margins of arguing for an enactive account, and took us directly into the vocabulary of what phenomenology and enactivism means and what it describes. This chapter provided us with a large-scale view of the landscape of the enactive perspective which underlies our phenomenological sense of self and Being. We saw that the body schema (later labelled corporeal-kinetic patterning (CKP)) is the most basic and important aspect of the developing organism. It provides the organism with its ability to move and understand movement at a level of which we are unaware. Proprioception was the next thing we looked at. It gave us a way to see situations in which elements of the body may arise to a state of semi-awareness in some circumstances. It was somewhat transitional between the unaware CKP, and the aware body image (relabelled corporeal-kinetic intentionality (CKI)). The beginnings of the phenomenological *mineness* could be said to emerge here in CKP, CKI, and proprioception. And in our brief look at CKI, we learned of our conscious understanding of ourselves as enactive beings. The phenomenology and discussion of robust aspects of self were left largely out of the discussion, but again, the emphasis was to lay down and emphasize the bodily basis for development of the PEMS.

Chapter 4 continued by exploring our sense of ownership and our sense of agency and the difficulties that existed between these two concepts. We also clarified the important terms for understanding the PEMS: CKP, CKI, kinaesthesia, and dynamic forms of vitality. The important terms relevant for the PEMS theory were presented, defined, and analyzed.

Chapter 5 rounded out our journey into the PEMS by looking at gesturing. Although easily overlooked by many as being of secondary importance to spoken language, we instead found that it is gesturing that actually helps lay the foundations for cognitive-based language, and in the case of one group of people (those who are deaf), it actually *becomes* the language. Although based in our motoric possibilities, gesture is something which represents something *more than* mere motor expression; it is also expressive of something personal. It is a bodily

movement which transcends the CKP from which it seems to be partially born. It is unique in that it represents our specific personality and even seems to assist us in our thinking, yet we are many times unconscious of ourselves doing it, and unaware that it is helping us think and express ourselves. It assists us in a largely unaware way of accomplishing thought and personal expression. The purpose of the chapter was to emphasize what gesturing means and represents to the PEMS.

So what have we learned from our look at the motoric origins of early, or basic, bodily origins of the self? We have seen that there is already meaningful and given being which exists prior to any form of reflection. This pre-reflective, bodily-kinetic meaning – the PEMS – forms the basis for the reflective meaning which comes after – and builds on top of – it. We also have seen that perception is not just exteroceptive, where what we experience is just a collection of sensory facts with form and content; instead, the most basic and primitive aspect of bodily meaning argues against abstractions made from stimulus and response, and instead is an *immediate* reaction to an entire, or whole, situation within a specific context. Bodily perception is action oriented towards intentional objects. Changes in bodily movement and habit have direct consequences toward our (sense of) being, both consciously and unconsciously. Who and what we are is shaped by our body. The self, at its most basic level, is bodily-kinetic based. The bodily kinaesthetic self is a pivotal component of the PEMS. A theory of self requires an understanding of our corporeal-kinetic dynamics and kinaesthesia. Part I focused on that aspect. This look at the bodily PEMS also showed us something very important that needs to be kept in mind as we move ahead; and that is: the elements of the more robust narrative self are intertwined with our sense of the minimal self.

We just looked at one component of the PEMS theory, but the PEMS theory has one other vital component, one largely neglected by others in their exploration of what makes up *ipseity* – affects. Just as this first part tried to argue that bodily understanding lies prior to – and forms the basis of – our conscious cognitive functioning (and our robust self); the next part is going to give primacy of focus to *affects* (moods, feelings and emotions). Far too often in the philosophical literature of the self, affects have been either neglected completely, or otherwise placed in abstract intellectual categories for which it is questionable whether they belong. We may be ‘rational’ animals as Aristotle stated, but we are also ‘emotional’ animals, and it is important to see how that should fit within a theory of selfhood. This focus on affects will also provide us with further insights into how the minimal and robust selves function, for through our exploration of feelings and emotions, we will be looking at what many times are the motivating factors for how we think or interpret situations, and experiences in which we

find ourselves. So in the next part we will be taking affects seriously as our phenomenological and enactive journey continues.

PART II : The Affective Self: Emotions, Feelings, and Moods

Part II: Introduction

“What we indicate ontologically by the term ‘state-of-mind’ is ontically the most familiar and everyday sort of thing; our mood, our Being-attuned. Prior to all psychology of moods...it is necessary to see this phenomenon...and to outline its structure.”²²²

What are affects, what role do they play in our lives, and why is this important? Affects, as discussed here, will be seen as encompassing three areas: moods, feelings and emotions. These ideas are difficult to define in part because they have been used in different ways by different people depending on what their goals were and what they were trying to achieve. As such we will avoid presenting hardened definitions at the moment, and instead examine and expand upon the ideas as we progress through the next four chapters.

Try to imagine going through life without ‘being in a mood.’ Imagine not having any feelings towards anything. Imagine not feeling any emotions towards persons, places, or things. We can’t. What it is *to be* a human being means that we must deal with moods, feelings, and emotions. They are what give our encounters with the world *meaning*. Affects are what makes things *personal*. Some of these experiences are distinctly human in how they are produced and experienced, others may have a more evolutionarily basic component which can be traced back to our primate, or mammalian (or even earlier) development. If we are to explore and come to an understanding of what a self is (especially the most minimal conditions that make up a self), then we need to have some idea of what affects are, and what role they play in our lives; for we cannot know who we are without having an account of how affects contribute to who we are, and how they drive, direct, or focus, our attention in different directions and situations.

In Part I we set out a bodily conception of the Phenomenological-Enactive Minimal Self (PEMS). This focused on a sensorimotor foundation that was prior to the reflective or narrative self. Much of our understanding of our self and others is based on a pre-noetic corporeal-kinetic patterning (CKP), a mirror neuron system, and proprioception, the last of

²²² Martin Heidegger. *Being and Time*. (NY: Harper, 1962), 172-173 (emphasis original).

which straddles the boundary between the pre-noetic CKP and the noetic – or reflective – corporeal-kinetic intentionality (CKI). We also saw in our look at infants, however, that there was an underlying ‘feeling of vitality’ which allowed the infant to make an intersubjective connection with its caregiver. What is this feeling of vitality? What are the other ways that we come to understand how the phenomenological sense of experience which is given to us immediately and noninferentially as *mine* – the *mineness* that is always part of our experience (as we saw in our look at CKP/CKI and sense of ownership/agency)? Part II will look in detail at affects (feelings, emotions and moods). Affects are an area that has been sorely neglected in the philosophical and scientific literature until recently. They have been either ignored, or de-emphasized when it comes to the role they play in our cognition and our sense of self and development. What Part II will do is demonstrate that affects are a vital and key component in our cognitive structuring, and in the creation and development of self in a way which hasn’t been seen before. But to do this we need to spend a significant amount of time developing an account of affects before we can apply that account to the notion of the self – we need to analyze affects in their own right first. After this is done, we will be provided with an account of how affects figure in the PEMS. What we are doing here is a synthetic project that is bringing together ideas in affective neuroscience, psychology of emotion, phenomenology, and enactivism in a new way which hasn’t been seen before. We will also see how affects connect with the bodily self, which will further show how our animate being, kinaesthesia, and dynamic forms of vitality emerge from an *affective* and animate body. Much like we saw in the first part regarding our understanding of our body, we will see again that emotions, feelings, and moods are not nearly as cognitively sophisticated – or filled with a noetic cognitive self-awareness or reflection – as we have typically thought. Instead, we will realize that the pre-noetic elements take priority. Part II – with the different emphases that each chapter will take – will show us that affects are not primarily ‘judgement’ driven by beliefs, but instead, that they frequently underlie our ability to have cognitive thoughts at all. Unlike the previous part, which surveyed several different areas, Part II will allow us to focus our attention on a single subject – affects – while occasionally drawing on the themes we covered relatively separately in Part I.²²³

When it comes to affects, scientific explorations have taken several approaches in trying to find an evolutionary understanding of why emotions evolved and what they evolved to do for us. One approach has tried to take into account behavioural, psychological, and

²²³ This will culminate in Part III when we pull everything together to summarize the Phenomenological-Enactive Minimal Self.

neuroscientific contributions, and interpret them from an evolutionary perspective.²²⁴ The idea with this approach is to try to locate the homologous origins of affective experiences in the brains of all mammals. That is, there should be a way to find the causal foundations of human emotions through a comparative study of similar emotional systems in relevant mammalian models.²²⁵ Another approach looks at the biology of subjectivity based on biophysical analysis.²²⁶ This analysis has argued that emotions and emotional behaviour are associated with and emerge from a state of tension within the biophysical field of the organism.²²⁷

Philosophical discussions have also ranged through much territory when it comes to developing a theory of emotions, from arguing that emotions are simply physiological reactions, to disturbances caused by our awareness of different objects, subjects, and events which we find in our environment;²²⁸ to the view that emotions are rational, and something we choose.²²⁹ The first view – the physiological reaction view – argues that if we find ourselves crying, we aren't doing so because we feel sad, in fact, we feel sad because we are crying.²³⁰ Something physiological has happened to us and the emotion is our experience of that physical reaction. The second view – the cognitive theory of emotions – says that emotions are like beliefs, and just as we can choose a course of action, so too, can we choose an emotion.²³¹ Another approach is that of Matthew Ratcliffe, who finds some middle-ground between the above two views, and indeed it will be argued has found the more basic position needed to understand where emotions emerge from. Ratcliffe, drawing on Martin Heidegger's views on mood, introduces the idea of 'existential feelings,' which he says consist not only of physiological reactions, but also intentional structures. These intentional states, according to Ratcliffe, have a background structure that is based on feelings. For Ratcliffe there are three aspects to these bodily feelings: (i) They possess a structure of intentionality. (ii) There is a distinction between "the location of a feeling and what that feeling is *of*." (iii) A bodily feeling does not need to be an object of our consciousness, for feelings many times are "that *through*

²²⁴ This is an approach taken by Jaak Panksepp.

²²⁵ Panksepp, Jaak. "On the Embodied Neural Nature of Core Emotional Affects." Emotion Experience Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 158.

²²⁶ This is an approach taken by Antonio Damasio and David Rudrauf.

²²⁷ Rudrauf, David, and Antonio Damasio. "A Conjecture Regarding the Biological Mechanism of Subjectivity and Feeling." Emotion Experience Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 236.

²²⁸ A view held by William James.

²²⁹ A view held by Robert Solomon.

²³⁰ Solomon, Robert C. What Is an Emotion? (UK: Oxford, 2003), 65.

²³¹ Solomon. Emotion, *ibid*.

which one is conscious of something else.”²³² It is these ‘existential feelings’ which form the background for the emotions which we are conscious of, so if we want to understand emotions, then we need to get a grip on what these existential feelings are. One of the main points that will be argued for in Part II is that Ratcliffe’s idea of ‘existential feelings’ is indeed the important thing to focus on, especially as an insight into the phenomenological component of the PEMS theory. Ratcliffe’s approach will provide us some key ideas that will allow us to understand the immediate, experiential, first-personal *givenness* or *mineness* that we possess. One final approach would be the perspective provided by enactivism. An enactivist might say that the mind cannot be reduced to structures within our brain, for the mind is embodied within the entire organism, and it is embedded in the world. Moreover, our meaning and experiences are enacted – or brought forth – through the continuous reciprocal interaction between our brain, our body, and the world. Drawing on the work of Giovanna Colombetti, we will be applying the enactivist model to affects. Part II will examine the structures that create the affects which we feel and which provide us with our most core phenomenological sense of meaning in the world.

Part II will begin in chapter 6 with a scientific overview of what emotions are and what they do for us. The focus here will be that of both Jaak Panksepp’s and Joseph LeDoux’s neurobiological accounts, along with Antonio Damasio and David Rudrauf’s account of tension in the biophysical field. It will lay the groundwork for a physiological-reaction understanding of how emotions are based (i.e. they are physiological reactions to environmental disturbances) and where they arise from, although it will hint at a cognitive interpretation that can be made. Chapter 7 will take us into philosophical accounts. Here we will look at the ‘cognitive’ theory (i.e. that emotions are similar to beliefs that we can choose) as it has been put forth by Robert Solomon. We then will explore some modified versions of the cognitive account – a ‘cognitive labelling’ account put forth by Stanley Schachter and Jerome Singer, and an ‘appraisal’ account put forth by Richard Lazarus. We end that chapter by returning to a physiological-reaction account that has found support in Jesse Prinz. That chapter will argue that the physiological-reaction account is more foundational and important to our understanding of what emotions are and what they do for us. Chapter 8 will take the physiological reaction account and look at it in light of the phenomenological account of Matthew Ratcliffe and the enactive account of Giovanna Colombetti. This chapter will show that the enactive approach can provide us with a deeper understanding of how affects emerge and what they do to give rise to the

²³² Ratcliffe, Matthew. "The Feeling of Being." *Emotion Experience* Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 44 (emphasis original).

phenomenological sense of meaning and mineness so essential to the PEMS. Finally, in Chapter 9 we will look at affects and the Phenomenological-Enactive Minimal Self, and bring them all together to demonstrate the importance of affects to the minimal self.

Chapter 6: Emotional Affects - Scientific and Evolutionary Accounts of their Origin and Function

*"The different modes of state-of-mind and the ways in which they are interconnected in their foundation...have long been well-known ontically under the terms 'affects' and 'feelings'."*²³³

We begin our investigation and characterization of affects by exploring some of the most recent scientific understandings of where affects come from, what their purpose is, and how they operate. The purpose of this chapter is not just to lay out the scientific explanations of affects, but in fact the material introduced here will provide us a necessary background to the discussion that will follow, along with providing us a hint of how the material on the bodily self introduced in Part I connects with affects. This chapter will focus predominantly on the work of three neuroscientists: Jaak Panksepp, Joseph LeDoux and Antonio Damasio.

Let us start at the beginning and ask: what are the functions of affects – why did they arise? It is perhaps uncontroversial that many animals experience some type of affective state in their daily experiences (whether they cognitively reflect on them is more in question, and indeed how much we reflect on them is also an important question, one which we will explore in chapter 7). Several possibilities arise when it comes to why they emerged. It seems that affects may have helped animals anticipate their survival needs, allowing them to prepare for some of these needs in advance. Affects can provide animals with a sort of prototypical *action readiness* (note the emphasis on animate corporeal kinetics as being an important component of affects; we will build upon this more in a moment).²³⁴ Developing fear of a certain type of situation, or animal, can further one's chances of being able to survive – and also avoiding dangerous situations in the future. A sense of fear can make an animal more alert to what is going on in its surroundings and prepare it to bolt away in a moment's notice. An emotion, then, can serve the function of life-support, and to anticipate and seek life-supportive situations. We can develop our understanding of this most basic, instinctual, affective experience and behaviour in animals in more detail by labelling three specific areas of affective experience: (i) interoceptive homeostasis of the body; (ii) exteroceptively driven affects; (iii)

²³³ Heidegger. *Being and Time*. 178.

²³⁴ Panksepp. "Core Emotional Affects." 162.

emotional affects.²³⁵ The first area of bodily homeostasis emphasizes the attempt to maintain chemical balance of the body (hunger and thirst can be included here). Exteroceptive affects deal with senses that occur outside the body, such as sight, touch, and hearing (pleasure from contact or aversion to some object or event can be included in this category). And emotional affects are what we see reflected in an animal's instinctual actions (fear, anger and separation-distress are emotions reflected in this area).²³⁶ These three varieties of affective experience give rise to the (cross-species) raw emotional feelings that animals have.

Panksepp's desire is to explore the emotional system of mammalian brains by looking at how "affects accompany instinctual emotional behaviors." These raw affective experiences, or arousals, are for Panksepp "pre-propositional gifts of nature," in that they are "cognitively impenetrable tools for living that inform us about the states of our body, the sensory aspects of the world that support or detract from our survival."²³⁷ By looking at mammals, we can look at what Jaak Panksepp puts forth as the seven primal 'emotional action dynamics' which he thinks all mammals possess, they are: seeking, fear, rage, lust, care, panic, and play.²³⁸ For Panksepp, these seven most primal or basic emotional processes all prepare the mammal for some type of action, and they tie-in with the most basic behaviour that mammals engage in based on their internal neurodynamics. Looking back at the three taxonomized areas of affective experiences, we see reflected in all three a slowly emerging increase in noticeable external *actions* (from the *action tendencies*). So by looking at the seven 'primal' emotional actions, we see that:

- (i) *Seeking*. This involves movement that deals with our appetitive desires, for example, our exploration for food. It reflects our goal-directed urges.
- (ii) *Fear*. This is manifested with body tenseness and sometimes shaking, or shivering. This can be based in anticipatory fear to avoid dangers, or fear of an actual threat.

²³⁵ Panksepp. "Core Emotional Affects." 169.

²³⁶ Panksepp, Jaak. "Affective Consciousness." *The Blackwell Companion to Consciousness*. Eds. Max Velmans and Susan Schneider. (UK: Blackwell, 2007), 115. All three of these also progress from being the least observed based on external evidence (homeostasis of the body), to those somewhat easier to observe (exteroceptively driven), to the most easily observed (the emotional affects).

²³⁷ Panksepp. "Core Emotional Affects." 169.

²³⁸ Panksepp. "Core Emotional Affects." 170. One may want to question whether some of these categories – such as 'seeking' or 'play' - should be considered primal emotions. Others have come up with slightly different affects or emotions which they consider 'basic.' For our present purposes, Panksepp's view can be accepted as an instructive way to get us thinking about primal or basic affects in general and how they can relate to action dynamics.

- (iii) *Rage*. This frequently involves violent interaction with the offending object. For animals this is usually connected with situations where there is competition for resources and the animal has not gotten what it wants.
- (iv) *Lust*. This is sexually manifested with rhythmic thrusting associated with the animal urge to reproduce.
- (v) *Care*. This can involve caressing, which is connected with the nurturing nature of many animals (the 'maternal instinct').
- (vi) *Panic*. A paradigmatic example is crying for human children who can't find their parent in a large crowd. In other animals that may have lost contact with a parent, they may express distress from separation anxiety by panicked searching, whimpering, moaning, or howling.
- (vii) *Play*. This can produce light hearted care-free movement based in the way which animals navigate their way around – and develop – the social possibilities of interacting with their own kind.²³⁹

Now, one might say that some of these outward emotional action dynamics actually possess a cognitive component, or themselves may be instigated by actual 'judgments' or 'appraisals' of situations. This topic will return and be the focus of our discussion for chapter 7; however, for the moment we can simply say that although Panksepp thinks there are cognitive emotions, he thinks they most likely rely on the primal emotions just laid out for their manifestation (primal emotions are not themselves cognitive in character). Panksepp is trying to show with this layout of primal emotions that "there exist homologous neuro-evolutionary foundations for affective experience in all mammalian brains,"²⁴⁰ and we also see that they are tied-in with sensorimotor actions or action tendencies. Put another way, the three areas of affective experience function as the foundation for *complex* affects, and the seven primal emotion action dynamics are, then, the foundation for the *action* that results from them. By exploring this further, we will be able to see what these (bodily) structures are that underpin these processes, how they interact with and modulate each other (in an enactive way), and how this gives rise to the phenomenological *feel* that makes up our *ipseity*.

Let's consider a predator-prey relationship (which would include several of Panksepp's primal emotional action dynamic categories, such as 'seeking', 'panic', and 'fear'), to see how this might work in the wild. Killdeer are ground-nesting birds that have a unique defence to protect their young if a predator approaches them. As a predator approaches, they move to a

²³⁹ Panksepp. "Affective Consciousness," 124-125.

²⁴⁰ Panksepp. "Core Emotional Affects." 159.

spot near the nest and then move away from the nest while fluttering their wings in a way which causes the predator to think they have an injured wing. This leads the predator away, and once the killdeer feels its young are safe, it flies away from the predator.²⁴¹ This is behaviour which has kinetic intelligence to it, and which has to be applicable for a number of predators, and based on approach from any direction – it is thinking in action. As Sheets-Johnstone says in this regard, “[p]redator-prey interactions...are spontaneous, real-life interactions that can be captured in nothing less than real-life situations.” They are not interactions that can be “orchestrated in advance, but [are] played out from moment to moment, it is a drama that involves thinking [...] tied to the evolving, changing situation itself.”²⁴² This ‘kinetic bodily logos,’ or corporeal-kinetics – which all animals have – comes with the type of bodily form that each animal has, it is something which is a common disposition found in all animate life forms.²⁴³

But where in the brain do emotions develop and occur? If the emotions are as Panksepp describes them, primal and instinctual, and there is a homologous foundation for affective experience across mammals, then looking into the sub cortical parts of the brain (which all mammals have in common) would be a good place to start. These are *not only* brain features which mammals have in common, and which means that they might show how the seven primal emotions can be exhibited and experienced by all, but this area is also tied in with basic *body dynamics* and the movement of different body parts²⁴⁴ (this perhaps helps explain why the core emotions typically have an expression of bodily movement, or why there seems to be commonality of behaviour in some emotional expression). We can narrow down further the sub cortical foundation for emotion. Panksepp says the “affects have a sub-neocortical locus of control; they arise from broad-scale *state control* functions.”²⁴⁵ This process in the brain is “less computational” and produces the “*intentions-in action* that guide *action-to-perception* processes.”²⁴⁶ The higher-level cognitions he calls ‘channel functions.’ Channel functions are neo-cortical in location as opposed to the *sub*-neocortical location of the ‘state control functions’. The cognitive channel functions are more discrete and computational in form. Let us consider an example to see these ideas at work and see how malleable or flexible these categories can be. Several years back in the United States there was the case of a woman named Terri Schiavo who entered a persistent vegetative state (PVS). Brain scans

²⁴¹ Sheets-Johnstone. [The Corporeal Turn](#). 51.

²⁴² Sheets-Johnstone. [The Corporeal Turn](#). 52n5, 52-53.

²⁴³ Sheets-Johnstone. [The Corporeal Turn](#). 59.

²⁴⁴ Panksepp. "Core Emotional Affects." 171.

²⁴⁵ Panksepp. "Core Emotional Affects." 173-174 (emphasis original).

²⁴⁶ Panksepp. "Core Emotional Affects." 174 (emphasis original)

revealed there was no measureable cognitive activity; and when her feeding tubes were removed, she died. What Panksepp wants to ask in PVS cases like this, is that even though there is nothing going on in the higher-level 'channel functions' of the brain, might there be some activity in the broad-scale 'state control' functions? The question that arises is: have the *feelings* of these people been as completely removed as their *cognitive* abilities? Do *felt* experiences as opposed to *cognitive* experiences persist, and would more in-depth brain imaging reveal this?²⁴⁷ If we give thought to the period of time that Schiavo was dying of starvation and thirst, Panksepp asks, "did she die with excruciating *feelings* of thirst accompanying her final passage?"²⁴⁸

Affective states for Panksepp fundamentally involve "'energetic' conditions of the brain-body continuum, while cognitions parse the many differences in exteroceptive space and time."²⁴⁹ An implication of this is that our raw affects do not arise from higher-order cognitive abilities. It is true that as we mature we are able to use cognition to repress some of our emotional affects, but overall, the sub-neocortical aspects of the brain provide the core of our affects. This gives us the broad flow of our brain-body interaction. The neocortical 'channel functions' give us a more focused cognitive and informational assessment of what is happening outside our body. "This is not to suggest that our ancient emotional operating systems were not intimately linked to emerging cognitive processes in brain evolution. They surely were."²⁵⁰ Rather, the argument is that the raw affects did not arise *directly* from these higher cognitive functions. It is true that our emotional affects can be altered or oppressed by our higher-level cognitions, and we may even be able to alter our state of mind and future reactions to a situation through this informational and higher-level cognitive approach (one type of psychotherapy – Cognitive Behaviour Therapy – relies on this view and method), however, the point is that the primal core of our affects is based on a less cognitively aware brain-body balance.

Let us step away from Panksepp for a moment and look at David Rudrauf and Antonio Damasio's idea of how the creation of emotions seems to be based on 'an internal state of

²⁴⁷ Panksepp. "Core Emotional Affects." 173.

²⁴⁸ Panksepp. "Core Emotional Affects." 172 (emphasis mine). Something like thirst might fit with Panksepp's category of maintaining homeostasis of the body (in part, many of these might exist to different degrees in several categories), an area which usually displays the least amount of observable actions. In this case, with an inability to move to satisfy the need of seeking to acquire water, increase the suffering and trigger other affective feelings? Although cognitively unconscious, someone like Schiavo might still have a nonreflective affective feeling which they are not able to communicate.

²⁴⁹ Panksepp. "Core Emotional Affects." 174.

²⁵⁰ Panksepp. "Core Emotional Affects." *ibid.*

tension' within the body. Work done by Rudrauf and Damasio has resulted in them arriving at the following hypothesis: "that the core of subjectivity and feeling is a dynamics of resistance to variance."²⁵¹ What do they mean by this? *Variance* has to do with "changes in the internal state of the system propagating through connected domains within the system's functional architecture"²⁵² (think of Panksepp's idea of homeostasis of the body). "Variance influences the behaviour as well as the biomechanical and cognitive dynamical structure of the system."²⁵³ And *resistance* is the ensemble of neurophysiological and neurocognitive processes which are in operation when we are alert regarding some matter. The neurocognitive system "during the process of cognition" has to maintain "impending perturbations under adaptive limits," integrating them with other "functions coupled to the process."²⁵⁴ When something catches our attention, or something triggers a need for decision making, or we have a certain motivation, then our neurophysiology and neurocognitive capacities need to compensate for this – there is a need to put adaptive limitations (monitoring and control) on conflicts that might arise through pressure, tension, vigilance and arousal. These changes can affect us locally, or on a larger scale by sending out waves of changes (again, think of Panksepp's broad, sub-neocortical 'state-control' function and his more focused, neo-cortical 'channel-functions'). By way of example to see these processes in action, imagine you are walking in a relaxed, distracted, and leisurely manner past someone's fenced-in house where bushes are obstructing your view, when suddenly a large, loud, growling and barking dog appears next to you with its teeth bearing. This might cause you to jump, your eyes widen, you break out into a sweat, and your heart beats quickly. You are experiencing variance (increased heart rate and related internal bodily changes related to this startling sight and sound), as well as resistance (preserving sensorimotor coherence and controlling the affective disturbance) to this situation. When the "various neurodynamical and biomechanical forces act in opposite direction in order to compensate for a state of disequilibrium," this produces a *tension* in the brain-body continuum which needs to be overcome.²⁵⁵ We can see that this ties in well with Panksepp's idea of disruption of the homeostatic (chemical balance) of the body as being part of the most basic aspect of our affective experiences. The idea of 'resistance' and 'variance' can be seen as another way of seeing how these affective experiences (chemical upheaval in the body) and primal emotions (body tenseness, jumping when considering the primal emotion of fear) are a part of our

²⁵¹ Rudrauf and Damasio. "Biological Mechanism of Subjectivity and Feeling." 241.

²⁵² Rudrauf and Damasio. "Biological Mechanism of Subjectivity and Feeling." 240.

²⁵³ Rudrauf and Damasio. "Biological Mechanism of Subjectivity and Feeling." *ibid.*

²⁵⁴ Rudrauf and Damasio. "Biological Mechanism of Subjectivity and Feeling." *ibid.*

²⁵⁵ Rudrauf and Damasio. "Biological Mechanism of Subjectivity and Feeling." 240.

evolutionary affective desire to maintain life-sustaining and avoid life-detracting stimuli and events.

Of course, this is not the only scientific perspective that one can have on affects and how they work and function. Joseph LeDoux is concerned with what he calls the ‘credibility problem.’²⁵⁶ He points out that most of what we know regarding the brain mechanisms connected with affects relies on studying emotional behaviour. However, just because some animals and humans exhibit similar behaviour does not mean that they are experiencing the same internal subjective states of mind.²⁵⁷ So how does one study affects when (except for humans) you cannot rely on verbal behaviour; and relying on behaviour in general is somewhat questionable? Indeed, even when dealing with verbal recollected responses from other people regarding their emotional state of mind, we run into difficulties, for our memories of a certain emotional experience are many times quite different from what actually happened during the emotional occurrence. This is because research has shown that “memories are constructions assembled at the time of retrieval.”²⁵⁸ Our remembered experience is in fact a distortion of the experience we actually had. To get around this LeDoux endorses a ‘processing’ approach to overcome the credibility problem.²⁵⁹ This processing approach focuses on studying the underlying processes which humans (and animals) undergo when emotions occur. Since we are able to study emotions as processes in both human beings and animals, LeDoux thinks this a way to escape the credibility problem.

Emotion according to LeDoux’s emotional processing account “can be defined as the process by which the brain [of humans and other animals] determines or computes the value of a stimulus.”²⁶⁰ For LeDoux an emotion has the following structure. “First, [unconscious] emotional reactions occur. These overt bodily responses and associated changes in internal body physiology are the advance guard of emotional responsivity.”²⁶¹ Next, a feeling emerges with which we become aware that something has occurred. Then, at this point, we *might* perform some type of action (the action doesn’t always have to occur).²⁶² The process of detection and reaction that occurs, in LeDoux’s opinion, happens automatically and independently of our “conscious awareness of the stimulus and feelings about it.”²⁶³ Consider

²⁵⁶ LeDoux, Joseph. Synaptic Self: How Our Brains Become Who We Are (NY: Penguin, 2002), 201.

²⁵⁷ LeDoux. Synaptic Self. 204.

²⁵⁸ LeDoux. Synaptic Self. 203.

²⁵⁹ LeDoux. Synaptic Self. 205.

²⁶⁰ LeDoux. Synaptic Self. *ibid*.

²⁶¹ LeDoux. Synaptic Self. 206.

²⁶² LeDoux. Synaptic Self. *ibid*.

²⁶³ LeDoux. Synaptic Self. 207.

the following example. You are walking through the woods and suddenly out of the corner of your eye you notice an object falling toward you from above and you immediately leap out of the way. It is only after you leap to the side that you realize that it was a large, dead, branch, which had broken off from the canopy above. It is at this point that you find your heart beating quickly and you are breathing heavily. Using LeDoux's above scheme, we first had a physiological reaction (leaping), we then realized what had happened and felt fear after the fact. LeDoux says that the emotion of fear that we experienced occurred *after* you had jumped, and *after* your heart began beating faster. In his words: "the feeling itself did not cause the jumping or the [heart] pumping."²⁶⁴ Let us change the example to see all three components of LeDoux's account in action. We are walking through the woods again and hear a frightening roar and some branches break off immediately to our right. This causes us to jump from the incoming sound we just heard and the branch debris that has just appeared off to our right. At this point we feel fear: our heart is racing and our heart is pounding. We then decide that we need to run to our left to avoid what is approaching (which we might have cognitively identified at this point as an angry, charging, bear).

We now are going to look in more detail at the emotion of fear and how we can learn the emotional context of an emotion. This will be instructive, not only for what neurobiology can tell us about this emotion in particular (and perhaps how emotions in general might work), but it will provide us with a foundation for the discussion which will follow in chapter 7 on whether emotions are primarily physical reactions, or whether there is some type of cognitive appraisal occurring (even if this 'appraisal' occurs outside our conscious awareness).

The region of our brain which sits at the intersection of our inputs and outputs of fear is the amygdala.²⁶⁵ When it comes to fear, there is a 'contextual conditioning' that occurs.²⁶⁶ If I am walking in the woods and encounter the angry bear, yes, it is the broken branches, the loud roar, and the charging animal that becomes part of my immediate awareness, yet once this occurs (assuming I survive the encounter!), any future visits I make to a wooded area – especially if I revisit that specific area of the woods again in the future – will make me feel uneasy. The context that emerges from this situation is something we psychologically construct. It is a memory which is created at the time of the occurrence which incorporates the various elements which make up that situation (the woods in general, broken branches, and perhaps a larger clearing of brush and shrubbery which allows space for a bear and its cub

²⁶⁴ LeDoux. Synaptic Self. 208.

²⁶⁵ LeDoux. Synaptic Self. 213.

²⁶⁶ LeDoux. Synaptic Self. 215.

to wander through, etc). This contextual conditioning relies on both the amygdala and the hippocampus.²⁶⁷ Let us begin, however, with just the *conditioning* part of contextual conditioning. The conditioning part, LeDoux says, “is an implicit form of learning, one that does not require conscious participation.”²⁶⁸ As the fearful situation occurs, however, parts of the situation enter into our working memory; from there – if this information is significant – it is moved into the explicit memory system. This, then, becomes part of our enduring memory²⁶⁹ (which, to stick with our previous example, would be a fear of the woods because of the bear encounter). This may seem straightforward: contextual conditioning of fear is taken care of by the amygdala, and the elements of the environment which make up that situation are then put into working memory – and perhaps even explicit memory if the information is significant enough. However, there is something that needs to be emphasized: “the amygdala *modulates* the formation of explicit memories in circuits of the hippocampus and related areas.”²⁷⁰ This is why our memories are more easily triggered if we are in a similar emotional state as we were when the memory was first laid down (e.g. revisiting the woods a week after the bear attack); the storing and retrieval of information in memory are assisted and coordinated (in part) by our emotional state of mind. This is what is meant by ‘emotional learning;’ the fear that we encounter is taken in by the amygdala and the signals it receives are then distributed to other areas which will in turn affect our “attention, perception, memory, [and] decision making.” Emotions organize and coordinate the activity of our brain.²⁷¹ For our purposes, the key point to take away from this is that “[f]ear conditioning by the amygdala...is an implicit form of learning, one that does not require conscious participation.”²⁷²

This ‘context conditioning’ can be further expanded upon by looking at Antonio Damasio’s views. Drawing on the recent research that has been done with mirror neurons (which we looked at in chapter 2), Damasio speaks of ‘simulated body states,’ or the ‘as-if body loop.’²⁷³ As he says, “the brain can *simulate*...certain body states, *as if* they were occurring.”²⁷⁴ He elaborates on the similarities between his as-if body loops and mirror neurons: “[s]o called mirror neurons are, in effect, the ultimate as-if body device. The network in which those neurons are embedded achieves conceptually what I hypothesized as the as-if body loop

²⁶⁷ LeDoux. *Synaptic Self*. *ibid*.

²⁶⁸ LeDoux. *Synaptic Self*. 221.

²⁶⁹ LeDoux. *Synaptic Self*. *Ibid*.

²⁷⁰ LeDoux. *Synaptic Self*. 222 (emphasis original).

²⁷¹ LeDoux. *Synaptic Self*. 225.

²⁷² LeDoux. *Synaptic Self*. 221.

²⁷³ Damasio, Antonio. *Self Comes to Mind: Constructing the Conscious Brain*. (UK: William Heinemann, 2010), 101-102.

²⁷⁴ Damasio. *Self Comes to Mind*. 102 (emphasis original)

system: the simulation, in the brain's body maps, of a body state that is not actually taking place in the organism."²⁷⁵ As we saw with LeDoux, as an emotion unfolds, things are being 'learned' and certain memories are being selected for, or enhanced. With Damasio's explanation, the brain can construct a map of the body which is similar to that if the person were to actually be in the situation (if I am walking in the same area of woods a week after my initial bear encounter, my body and mind may enter a very similar emotional state to what it was in when I first encountered the bear, even if there now are no bears around). Now this is a slightly different instance than what we covered in chapter 2 on mirror neurons. There we saw how observing someone *else* perform an activity (such as picking up a mug) can trigger the same neurons as are active when we perform the same activity. What Damasio wants to argue for here, is that "the as-if system applied to others would not have developed had there not first been an as-if system applied to the brain's own organism."²⁷⁶ Thus, the neurons that deal with the emotion of fear in the amygdala would trigger in the situation where we revisit the place of our encounter with the bear a week after it occurred. So what we have in this case are neurons in areas where emotions occur (such as the amygdala) activating regions of the brain that map out the state of our body and prepare it for action.

Let us now summarize this chapter and pull together some main ideas. The ideas that began this chapter provided not only a new perspective on the self by looking at the role and importance of affects; they also showed how affects have an evolutionary basis that goes back to other mammals and animals. Neuroscientist Jaak Panksepp presented three areas which make up the most basic, instinctual, life-supportive affective experiences of animals. They begin with homeostasis of the body and the maintenance of bodily chemical balance. They continue with three exteroceptive driven affects that occur outside the body, including sight, touch, and sound. And they end with the emotional affects that indicate the animals' instinctual actions. These cross-species varieties of affective experiences provide animals – including us – with the emotions and feelings which they have. Notice that the emotional affects display instinctual *actions*; this is again an important idea to keep in mind – that even our affects are based in movement. Panksepp argued for seven basic 'emotional action dynamics' that inform us and other mammals about the states of our bodies, and sensory aspects of the world that affect our ability to survive or perish. These seven were: seeking, fear, rage, lust, care, panic, and play. All, according to him, were primal, basic emotional processes which prepared all animals for some form of action. Although other experts in this

²⁷⁵ Damasio. Self Comes to Mind. 103.

²⁷⁶ Damasio. Self Comes to Mind. *ibid.*

area have argued for the addition or elimination of some of these categories, there seems to be a consensus on there being primal emotions, and Panksepp's argument that they are poised for action lends support for a phylogenetic heritage for 'thinking in action.'

So to put it succinctly, (1) Affects are life-supportive in function. The purpose of 'primal' emotions is to provide us with a type of homeostasis of the body (at the chemical level), and a brain-body balance overall. The organism and environment are constantly influencing each other (think of the killdeer example; or the example of us walking through the woods). The primal affects, as Panksepp pointed out, also give us our phenomenological and experiential feeling of 'livingness,' or 'feelings of vitality' of the minimal self. For example, think of the primal emotions of 'care' or 'play,' these can easily fit with what we saw with Stern, and Meltzoff and Moore with the examples of interplay between infant and caregiver which gave rise to the 'feelings of vitality.' These emotions, although perhaps at higher levels something we are consciously aware of, at their most 'primal' or 'primordial' level, seem to lie beneath our reflective awareness, yet contribute a vital element to the primal *mineness* of minimal selfhood. (2) Affects are tied-in with the sensorimotor part of the brain; some type of action-readiness is usually part of an emotional experience, this is related to the corporeal-kinetic patterning or proprioception system. However, we saw that there seems to be some type of 'emotional learning' going on. Affects seem to sometimes straddle the boundary of noetic awareness and pre-noetic awareness. This boundary is something which we are going to explore in greater depth over the next couple chapters.

Chapter 7: Cognitive vs. Physical Reaction Accounts of Affects

“...‘fearfulness’ is not to be understood in an ontical sense as some factual ‘individualized’ disposition, but as an existential possibility of the essential state-of-mind.”²⁷⁷

The last chapter argued for affects as being traced back to chemical and physical reactions that the organism must deal with in order to maintain its own homeostasis, or to maintain life-supportive equilibrium. This gives rise to the most basic and primitive element of experiential first-person *givenness* that reveals experiences as *our* own (the discussions in part I of infant-caregiver interaction gain further support by seeing how the vitality dynamics between them rely in part on primal affects like ‘care’ or ‘play’). Although a ‘physiological-reaction’ view of emotion was popular in the beginning of the 20th century (and as we saw in the previous chapter, support for it is returning), a ‘cognitive’ view of emotion began to gain influence in the 1970’s. Spearheaded in part by philosopher Robert Solomon, this view has a good number of adherents, and is a theory of emotion which dominates many areas of philosophy and psychology today.²⁷⁸ If we are to understand what affects are and how they contribute to our (sense of) self, then we need to see what the cognitive view of emotion is and why it has come to prominence in the field of emotion studies during the last 40 years. What this chapter will do then, is to lay out the cognitive view as argued for by Solomon, along with the physical reaction response. We will then look at some hybrid views and survey some of the territory that covers this area. We end with a look at Jesse Prinz’s ‘embodied appraisal’ theory of emotion as we work our way back towards a PEMS (Phenomenological-Enactive Minimal Self) view. The analysis done in this chapter will show that although the ‘cognitive’ view of emotion has a place for explaining *some* of our emotions and how and why they manifest themselves (at the narrative level, for instance), the evidence will show that the ‘physiological-reaction’ has a priority (at the minimal level and after), both in laying the framework for the ‘cognitive’ view, and for providing that most basic phenomenological belonging-to-the-world which makes up our PEMS. This supports the PEMS argument that states although a narrative notion of self is important and plays a role for us, it is something more minimal (bodily, affective) which plays a more important role for us initially, as well as effecting us throughout our life.

²⁷⁷ Heidegger. *Being and Time*. 182.

²⁷⁸ Solomon. *Emotion*, 1-2.

The physiological-reaction viewpoint we saw in the previous chapter suggested that affects *happen* to us and are largely out of our control. We saw from the neuroscientists we surveyed that affects seemed to precede cognition. Solomon disagrees with this assessment, he thinks of emotions (which for him are an important category of affects) as “a process and not a mere reaction.”²⁷⁹ Affects for him are not just some momentary occurrence, but are indeed much longer lasting experiences which possess more complex components.²⁸⁰ He says:

“In recent work done by Joe LeDoux, Jaak Panksepp, and Antonio Damasio, for example, an emotion is sometimes presented as if it is more or less over and done with in 120 milliseconds. [...] An emotion, so understood, is a preconscious, precognitive, more or less automatic excitation of an affect program...[B]ut I am interested...in processes that last more than five minutes.”²⁸¹

Solomon argues that if we are having some type of ‘response’ to an object, person, or situation, then surely this must indicate some type of ‘recognition,’ and recognition, for Solomon, implies some form of cognition. However, cognition does not necessarily mean for him something that is *only* conscious, or articulate, for he allows that there are “primitive preconceptual forms of cognition,”²⁸² so what does he mean? Although short-term neurological arousal has a place, he is interested in the longer term ‘narratives’ that make up our ‘meaning of life.’ Before we go any further, we should further lay out some of the definitions of terms associated with affects. So let us look at Solomon’s understanding of what a feeling and a mood are in relation to emotions, for from this point till the very end of Part II, these three affective terms (emotions, feelings, and moods) are going to have to be understood and demarcated somewhat better if we are to come to an understanding of a theory of affects and how they influence our sense of self (although the focus on feelings and moods will make its main appearance in chapter 8).

Solomon claims that emotions are purposive and rational judgments. They are also something that we *do*. We choose an emotion, he thinks, much like we choose a course of action. But one way this ‘choosing’ is different from some other judgments is that these are non deliberate choices. Emotions are intentional – they are about something particular. So if we are about to leave the house to arrive at an important appointment, and find that our

²⁷⁹ Solomon, Robert. Not Passion’s Slave: Emotion and Choice. (UK:Oxford, 2003), viii.

²⁸⁰ Solomon. Not Passion’s Slave. Ibid.

²⁸¹ Solomon, Robert. “Thoughts and Feelings: What Is a ‘Cognitive Theory’ of the Emotions, and Does It Neglect Affectivity?” (2001) Not Passion’s Slave. Ed. Robert Solomon. (UK:Oxford, 2003), 178-179.

²⁸² Solomon. “Thoughts and Feelings.” 179.

partner left us a note saying that they took the car keys to run an (unnecessary) errand, then we might be angry at our partner for taking the keys. We are angry at a specific person, for a specific reason, in a specific situation. As we can see, the situation behind an emotion can include some complex factors. Solomon sees moods as similar to emotions; however, one difference is that moods do not have a specific object; in fact, they may not have an object at all. They can perhaps be regarded, according to Solomon, as ‘generalized emotions.’ Indeed, it may be the emotion which generates the mood.²⁸³ If we are in a depressed mood, the melancholy that fills us may not be *about* anything. It may have been *triggered* by something specific (such as seeing the photo of a dead loved one and missing their presence), but the mood may go on to cloud the remainder of the day even if the thought that triggered it (the loss of the dead loved one) does not enter one’s mind for the rest of the melancholic period. On the other hand, the melancholic mood may not have had an object (like the picture of the dead relative) to trigger it at all. The difference between an emotion and mood, then, is what they are *about*. An emotion focuses on something particular or specific, whereas a mood may not be about anything, or perhaps might encompass the world at large without a specific focus.

We’ve taken a quick look at Solomon’s view of emotions and moods; consider next his view on feelings. Whereas for Solomon emotions and moods have a direction (either to something specific in the world for an emotion, or in the case of a mood, to the world in general), the thing that stands out about feelings is that they do not have a ‘direction’ or intentionality to them (so whereas an emotion cannot be identified apart from the object that is associated with it, a feeling doesn’t have this connection).²⁸⁴ If I am angry, I am angry about ‘something.’ If you remove that ‘something’ I am angry about, I won’t be angry anymore (I can’t be angry about the missing keys if they are not missing!). We could also say (as Solomon does) that emotions are dependent on a ‘belief.’ I am angry about not being able to take the car to get to my appointment because I have a belief that my partner took the keys. So, if I was first emotionally angry about the keys being taken and then they are returned, the anger might dissipate, but a lingering feeling might remain: “the feelings are at most an accompaniment to the anger...My anger vanishes instantly, but the feeling – that is, the pulsing and flushing – remains for a moment. Even though those feelings were induced by my

²⁸³ Solomon, Robert. *The Passions: Emotions and the Meaning of Life*. (IA: Hackett, 1993), 71.

²⁸⁴ Solomon, Robert. "Emotions and Choice." (1973/1980) *Not Passion's Slave*. Ed. Robert Solomon. (UK:Oxford, 2003), 233 n2. Solomon is aware that in everyday use the word ‘feeling’ is typically used in a broader sense than the way he is defining it here.

anger and are now the same feelings I had when I was angry a moment ago, they are no longer feelings of anger.”²⁸⁵

It might be thought that rather than thinking of emotions as triggering a mood or feeling, that instead the opposite is true – emotions arise out of feelings. Advocates of this ‘feeling theory’ could argue that an emotion is simply a feeling *plus* something else (that is, a feeling plus the particular object or situation to which it is directed). Although emotions many times involve feelings, Solomon says “feelings are neither necessary nor sufficient to differentiate emotions. An emotion is never simply a feeling, even a feeling plus anything.”²⁸⁶ Importantly for Solomon, emotions are more like a *belief*, and like a belief, our emotions will alter if we change our opinion; whereas changing our mind or belief does not alter our feelings.²⁸⁷ Those who hold a ‘feeling theory’ of emotions may not be convinced by Solomon’s response, and may think that the feeling could still form the basis of an emotion, for example, if a person is angry, how could they *not* actually ‘feel’ what they are feeling when they are expressing the anger? We will return to this later, but for the moment will pass on this point and return to Solomon’s case for a cognitive theory of emotion.

Let us consider in more detail Solomon’s idea that an emotion is like a belief. Although an emotion may resemble a belief, it can more accurately be described as an evaluative ‘judgment.’ And not just any type of judgment, but one which is normative and ethical; it is a judgment that is about a situation of mine, about myself, or about other people.²⁸⁸ “The object of an emotion...is not an object *about* which one makes a judgment but is rather defined, in part, by that normative judgment.”²⁸⁹ Thus, my anger at my partner for taking the car keys for some trivial errand when I needed them for an important appointment is something inseparable from my view that this action they took was thoughtless. If this is true, then there is some type of conceptual dimension in how emotions arise and operate. In the case of the example at hand, if I am angry at my partner for taking the keys, then I cannot be angry at her for *not* taking the keys; there are a series of conceptual ideas which form the back-drop to taking the keys which belong to the emotion that is manifested. Following up on

²⁸⁵ Solomon. The Passions. 119. From this discussion of moods and feelings, one may want to question some of the defining features of these ideas (such as: ‘do moods actually have intentionality?’ or, ‘do feelings actually lack intentionality?’). We will be revisiting these questions regarding moods and feelings in more detail in chapter 8.

²⁸⁶ Solomon. The Passions. 118.

²⁸⁷ Solomon. “Emotions and Choice.” 5.

²⁸⁸ Solomon. “Emotions and Choice.” 7. Solomon. The Passions. 126.

²⁸⁹ Solomon. “Emotions and Choice.” 8 (emphasis original).

this, much like other judgments, if our knowledge changes, so too will our emotion.²⁹⁰ If, after I get angry when reading the note from my partner that she took the keys to run an unimportant errand, she then comes out from behind me and says “Hey, just kidding, I actually did not take the keys,” I might still be angry at her for producing a bad joke (but at this point the conceptual background to and the reasons for my anger have changed, and there are other reasons why I might be angry), or I may find that my anger has completely dissipated knowing that I can take the keys and go on my way to the appointment. As can be seen, as the evidence for the anger changes or disappears, so too does the emotion itself change or disappear.

Something else emerges from this as well. Whereas some judgments are more long term, emotions seem to be made in haste, or could be considered ‘rash judgments.’ “The evidence upon which I become emotional is typically (but not necessarily) incomplete, and my knowledge of what I am emotional about is often (but again not necessarily) superficial.”²⁹¹ But isn’t there a problem here, since Solomon wants to argue that emotions are rational? Consider this: if emotions are urgent judgments, and our responsive actions are a type of emergency behaviour (perhaps I pounded the table with my fist in frustration when I first found out why the keys were taken), then does that not make them irrational? First of all, Solomon wants us to remember that it is the “situation in which one becomes emotional that is disruptive...not the emotional response.” And second, because the emotion is an urgent judgment, it is by definition a ‘short-term response.’ Not all of our purposive thoughts, behaviour and actions are consistent or coherent either. Frequently our short-term goals conflict with – and alter – our long-term goals in ways which do not always make sense.²⁹² Thus, one could say that the emotion may be rational or irrational, but one thing which they are not is *non-rational*, so whether they are considered rational or irrational, they still possess a type of rationality.²⁹³ One concern with this is that unlike other judgments, we do not always identify the reason or purpose of our emotion at the time it happens, for if we were aware of why we were angry, that itself might be enough to diffuse or undermine the anger. But Solomon wants to add that an emotion is not just a *single* judgment; it is made up of a whole interconnected *system* of judgments.²⁹⁴ For example, I judge that I *need* the keys, when I find out my partner took them, I judge that she *didn’t* need them as badly as I did, I then judge that

²⁹⁰ Solomon. “Emotions and Choice.” 10.

²⁹¹ Solomon. “Emotions and Choice.” 11.

²⁹² Solomon. “Emotions and Choice.” 12-13.

²⁹³ Solomon. “Emotions and Choice.” 23.

²⁹⁴ Solomon. “Emotions and Choice.” 21.

what she did was *bad*, and this leads to me to a feeling of outrage or anger for this *entire situation*.

Let us pause for a moment and summarize the main points of the argument for emotions being cognitive and then look at some objections that one could make by bringing in the neuroscientific ideas we covered in chapter 6, before moving on with further ideas and discussion. Solomon's argument for a cognitive theory of emotions is based on the idea that emotions are judgments,²⁹⁵ and this theory is comprised of the following theses²⁹⁶:

1. Emotional judgments are spontaneous, or urgent, based on a situation which arises without warning. This isn't always so, of course, for we can sometimes 'work ourselves' into an emotional state; in most cases, however, emotions are non-deliberative and occur without any reflection or conscious attention. This is why we sometimes find that we have misinterpreted a situation and find the emotion to have been in 'poor judgment.'²⁹⁷
2. Emotional judgments are evaluative, and are a type of appraisal. As stated in (1), most of the time emotions are spontaneous and occur pre-reflectively. However, the ethical judgments we hold are many times related to our emotional reaction to an issue – they embody our convictions. Emotional judgments are connected to our judgments of responsibility.²⁹⁸
3. Emotional judgments are rational or (sometimes) irrational, but they are not *non-rational* – they answer to norms of rationality.²⁹⁹
4. Emotional judgments are a systematic judgment that set up a situation. A related collection of beliefs, desires and other judgments typically make up an emotional reaction to a situation. When in a state of anger, I may make a gesture which can be interpreted as conveying this emotion; and in such a situation the anger is understood and an offensive response may be given in return. The emotional

²⁹⁵ Solomon, Robert. "On Emotions as Judgments." (1988) *Not Passion's Slave*. Ed. Robert Solomon. (UK: Oxford, 2003), 95. With this statement we are interpreting Solomon as pursuing a strong cognitivist argument for emotions; he does allow that emotions could be "'just' judgments" or that they could be judgments plus a desire or a feeling (as we saw above).

²⁹⁶ Solomon defends more theses than are presented here, what I have done is consolidate some under broader headings, and have tried to focus on the strongest and most important points necessary for our current discussion.

²⁹⁷ Solomon. "Emotions as Judgments." 97.

²⁹⁸ Solomon. "Emotions as Judgments." 99.

²⁹⁹ Solomon. "Emotions and Choice." 23.

judgment may at some point be discovered to have been wrong, or get refuted by facts that later come to light, but this is true of any type of judgment.³⁰⁰

Both physiological-reaction and cognitive theory advocates agree that emotions can arise quickly and trigger an action or behaviour. The question arises, however, whether this is some bodily-based type of perception and motoric reaction, or whether there is some type of (usually) unconscious judgmental process going on; and moreover, whether emotions are many times a judgment arising from a system of interconnected judgments that make up a situation.

From the discussion we've had on judgments, there have been several references to emotions being 'cognitive,' a question might have come to mind, and that is what do we mean by 'cognitive,' or what is a 'cognitive process'? For our purposes 'cognitive' will be considered along the lines of how Solomon has been using the term, that is, as something associated with an appraisal or judgment. There have been other terms that have been bandied about as well: 'rational,' 'deliberation,' 'thinking,' 'reasoning,' and 'learning,' have all been words used by both physiological-reaction and cognitive emotion theorists to describe what is going on according to their theories. Let us examine this more closely.

To look at this closer we can revisit a discussion we had in the previous chapter on Joseph LeDoux's idea of 'emotional learning.' There we encountered the idea of 'contextual conditioning.' If I am walking through the woods and hear branches breaking and a roar to my right, my amygdala unconsciously triggers a type of conditioning, which is a type of implicit 'learning.' As the series of frightening events unfold, elements of this enter my working memory, with the possibility of it entering my explicit – and enduring – memory, if the information taken in is significant enough. If you recall from that discussion, the amygdala in this situation is *modulating* the formation of memories in the various parts of the brain relevant to dealing with this situation and storing it for future reference. LeDoux had argued that emotions were organizing and coordinating the activity of our brain. But what kind of 'learning' are we talking about here? Could this emotional learning be interpreted as 'cognitive' in a Solomonian way? Jaak Panksepp has a response:

“We humans do not learn to experience affects, but we *learn* when and how to experience them and what to do about them.” [They are] “instinctual tools rather than constructions of nurture.”³⁰¹

³⁰⁰ Solomon. “Emotions as Judgments.” 100-101.

He goes on:

“Those core feeling dynamics cannot cognitively reflect on themselves, but they may be experienced as cognitively unadulterated forms of pure affective livingness that may be an essential foundation for all higher mental functions. [...] Perhaps many individuals lose touch with...such emotional values as they cognitively mature. [...] Thereby, affects may become part of our dynamic subconscious. Still, those ancient aspects of mental life probably continue to influence our emotional experiences from birth to death.”³⁰²

And he makes the point more strongly:

“Primitive emotional feelings appear to lie at the core of our beings, and the neural mechanisms that generate such states may constitute an essential foundation process for the evolution of higher, more rational, forms of consciousness.”³⁰³

Consider Panksepp's first statement. He says we 'do not *learn* to experience affects,' but rather *how* to experience them, 'and *what* to do about them.' Many of our emotional reactions (such as jumping and fleeing from the sound of the bear in the forest) are *instinctual* in nature; and ancient ancestral reactions seem to support a physiological-reaction (primal, instinctual) rather than a cognitive (rational, judgmental) reaction, since instinctual reactions can be traced back to much earlier mammalian and animal life forms with arguably simpler forms of cognitive ability. What are these 'cognitively unadulterated forms of pure livingness' that form the core of 'all higher mental functions'? If they are some type of 'core emotional feeling', and if these instinctual feelings are a precursor to a more cognitively aware emotion, or function as a component of an emotion, then we need to take a much closer look at what feelings are and whether or not they come before or after emotions. Now, if affects do form a *basis* or foundation for emotions as Panksepp thinks, this would not at first seem to threaten Solomon's view, for we could still have the core affects which laid the foundation for emotions, and the rational and judgmental emotions which now exist in the present. Indeed, as Solomon says: "An affect program may be a 'proto-emotion'...but it is not yet an emotion. An affect program may emerge as an emotion, but by itself it is just a physiological

³⁰¹ Panksepp. "Neural Nature of Core Emotional Affects." 165 (emphasis original)

³⁰² Panksepp. "Neural Nature of Core Emotional Affects." 179.

³⁰³ Panksepp. "Periconscious Substrates of Consciousness." 113.

reaction.”³⁰⁴ However, a problem for Solomon still seems to persist. Panksepp performed an experiment where he surgically eliminated the neocortical influence in young laboratory rats (about 1/3 of their brain – which left them with the more evolutionarily ancient part), and found that their behaviour was virtually indistinguishable from normal rats.³⁰⁵ And when he looked at comparable issues of brain damage in humans, he found that if it happened in adults, then behavioural deficits appeared, however, in the case of children, it seems they adjusted much better, leading him to conclude that “the lower regions of the brain suffice to sustain organismic emotional-affective coherence... [and this] affirms that the higher cognitive regions of the brain are not essential for the generation of emotionality.”³⁰⁶ It then seems that these sub cortical affective systems, “provide the experiential background ‘context’ for all of the rest of conscious mental activity,”³⁰⁷ and not just as background evolutionary foundations for later higher level cognitive emotions to emerge from, but as actual components of the emotions themselves. It is here where we see Solomon’s problem, for he had thought that “[a]ll emotions have a neurological basis, but the identity of particular emotions lies elsewhere.”³⁰⁸ Although part of the way the children in Panksepp’s studies were able to adjust was through socially supportive environments (thus providing that extra bit of input that helped the children to emotionally develop), just as importantly – perhaps even more importantly – we see that it was the evolutionarily basic part of the brain which still played the most important role in emotions. Thus, the primitive affective systems are not just a platform or foundation for the emergence of higher level emotions; they are in fact a component within this structure that in some circumstances can play a primary role in their development, and it is this insight which seems to reduce the strength of Solomon’s view.³⁰⁹

Let us continue the discussion of the cognitive theory of emotion by revisiting Antonio Damasio’s version of the physical reaction account of emotion. Just after we looked at LeDoux’s idea of contextual conditioning in the previous chapter, we looked at Damasio’s idea of the ‘as-if body loop’ or ‘simulated body states’ as furthering LeDoux’s argument. Drawing on the work of mirror neurons, Damasio stated that ‘the brain can simulate certain body states as if they were occurring.’ This means that when we encounter a situation (say we are entering the forest where we will soon encounter the rabid bear), the brain constructs a body

³⁰⁴ Solomon, Robert. "Back to the Basics: On the Very Idea of 'Basic Emotions.'" (1993/2001) Not Passion's Slave. Ed. Robert Solomon. (UK:Oxford, 2003), 133.

³⁰⁵ Panksepp. "Affective Consciousness." 121.

³⁰⁶ Panksepp. "Affective Consciousness." *ibid*.

³⁰⁷ Panksepp. "Affective Consciousness." 126.

³⁰⁸ Solomon. "Basic Emotions." 134.

³⁰⁹ There is more we can say about the structure and organization of consciousness, but this will be covered in detail in chapter 10.

map (or a representation of the body) for the situation, so when we re-encounter a similar situation (visiting the forest again a week after the incident), the *brain simulates* the change in bodily state and moves directly from the perception of the object (hearing a branch break in this area of the forest) directly to the perception of the body change (thinking: 'oh no, here comes another bear'). This allows the body to be placed in the same emotional state just by entering that area of the forest without the input that existed in the original encounter. If the person can skip over the *change* in bodily state (through a brain simulation), and move directly from the perception of the object to perception of the bodily change, this would seem to imply some type of cognitive information processing of the situation. It is these contextual conditionings and the 'as-if body loop' or 'simulated body states' which might be able to explain (at least partially) the alleged complex systematic structure that Solomon argues emotions possess. For once something occurs many of these steps can be skipped over so-to-speak in future scenarios.

One way to rebut this argument would be to argue that the 'as-if body loop' only applies *after* one has already encountered a similar situation (and during this first encounter one could say there is nothing 'judgmental' or 'cognitive' about it – it is purely an instinctual, bodily reaction to a scenario). But even if I discover on my second visit to the forest that the branch I hear breaking is not another approaching bear but simply the wind, or maybe my friend sneaking up on my right to say 'boo! I am a bear!' I will still have been emotionally conditioned (from the first encounter) to respond with a certain emotional reaction. There is still a type of emotional learning occurring. However, this emotional 'learning' is not some kind of cognitive judgment. This emotional learning occurred because of the amygdala modulating the formation of my memory, and this implicit 'learning' was conditioned during that first contextual encounter. And although memories do seem to be something which most of us would consider cognitive (with which we can use to form judgments of situation), the fact that it is the amygdala which is performing this function does not make them cognitive in a conscious or judgmental way. Still, do cognition and emotion occur together at the same time – and how might they interact?

It might be wise at this point to look at a hybrid perspective between a strict cognitive view and a strict physiological-reaction view to further see how one can understand this. Experimental psychologists Stanley Schachter and Jerome Singer have arrived at a theory of emotion which says that although an emotion may be based in a bodily excitation, there is also a cognitive component which involves a 'labelling' and 'discriminating' among the physiological arousal. This view argues that there is a bodily change that occurs in a certain scenario which

then forces an emotional response, but this bodily excitation leads to an act of cognitive labelling or interpretation that is applied to that physical state. This is an act of naming the emotion, whether it is correct or not. The cognitive element (naming the emotion) “exerts a steering function” on the state of arousal.³¹⁰ Their ‘cognitive labelling’ theory has the following three components:

1. If we are in a situation where we enter a state of physiological arousal for which we have “no immediate explanation” we will “‘label’ this state and describe [our] feelings in terms of the cognitions available to” us. That is, we will provide a name to label the physiological change, and this will steer us in a certain direction. So, when we first encounter the bear in the forest (via the roar and snapping of branches), this is an entirely new, surprising situation for us, and we don’t initially know whether we should be frightened by what is approaching, or whether it is a false alarm, etc. Nevertheless, we will try and label – or name – the events and this in turn will cause us to interpret the situation in a certain way.
2. If we enter a situation where our physiological arousal has an ‘appropriate explanation’ (perhaps I hear a branch snap in the forest, but I realize that a friend of mine is going to be playing a trick on me), then there will be no need to evaluate my needs and I will not have to label my feelings in terms of the different cognitive labels available.
3. The last situation would be one where “emotion inducing cognitions are present but there is no state of physiological arousal” (perhaps an individual has to give a public speech, but public speaking frightens them, so they have taken drugs which inhibit their physiological reaction). Does that person experience the emotion of ‘fear’ if it is physiologically hidden? Schachter and Singer say that “given the same cognitive circumstances, the individual will react emotionally or describe his feelings as emotions only to the extent that he experiences a state of physiological arousal.”³¹¹

Experiments that Schachter and Singer devised were able to demonstrate that people “given precisely the same state of epinephrine-induced sympathetic activation,” were “by means of cognitive manipulations...able to produce in [the] subjects...very disparate states of

³¹⁰ Schachter, Stanley, and Jerome E. Singer. "Cognitive, Social, and Physiological Determinants of Emotional State." (1962) What Is An Emotion? Classic and Contemporary Readings; second edition. Ed. Robert C. Solomon. (UK:Oxford, 2003), 111-112.

³¹¹ Schachter and Singer. "Determinants of Emotional State." 113-114.

euphoria and anger.”³¹² From this they concluded that cognitive factors contributed greatly to determining the emotional labels which we apply to states of arousal. Under this theory, then, we could say that different emotions can emerge from the same physical or bodily state. So, if I’ve been in the woods on several occasions and heard branches getting snapped off, and the first was because of a rabid bear, the second was a friend playing a prank, and in more recent times have been the result of the wind, or a squirrel moving about in the trees, I might get the same ‘jumping’ emotion when I hear twigs snap nearby me, but I could have different emotional reactions each time. To anyone observing me it may look like I am reacting the same, I may be having the same bodily reaction, yet I may actually possess a different emotional state of mind. I might jump in the same manner and get a heavily beating heart each time I hear a twig snap, but the emotion I may be having each time could be different, such as: fear (bear!), or annoyance (friend playing prank), or a mild and brief panic which subsides almost immediately (it’s just the wind, or it’s just a squirrel). What we have here are two claims: (a) that although emotional displays look the same, the actual emotions are different, and (b) that although these emotions are different, the actual bodily state is the same. These claims say “that bodily states cannot distinguish between different emotions.”³¹³ Jesse Prinz has a response to this. He says that if Damasio – drawing on the work of the mirror neuron researchers – is correct that there are ‘as-if body loops’ or ‘simulated body states,’ then these body loops can cause activation within the brain that registers certain bodily changes even in their absence.³¹⁴ Now, the question that arose earlier was that if a bodily change is being bypassed, and the brain is registering this change and instigating an emotional response, then this could be a good piece of evidence for a cognitive theory of emotion. However, we need to recall from our discussion of mirror neurons (which would be the brain system tied in with this ‘as-if body loop’) that they were tied in with the sensorimotor part of our brain, the part of our brain that deals with our most basic physical management and navigation of our environment. Thus even here we are seeing a bodily basis to ‘understanding.’ The Schachter/Singer view is helpful because it acknowledges a physical basis for emotions, but includes a cognitive ‘labelling’ component which provides an interesting extra step in understanding how emotions develop and emerge without sacrificing the important role the body plays.

Having examined Solomon’s cognitive theory of emotion earlier, let us look at one other cognitive view that provides a perspective that is perhaps more easily assimilated into a

³¹² Schachter and Singer. "Determinants of Emotional State." 118.

³¹³ Prinz, Jesse. Gut Reactions: A Perceptual Theory of Emotion. (UK: Oxford, 2004), 70.

³¹⁴ Prinz. Gut Reactions. 72.

theory which includes the importance of the bodily reaction. Psychologist Richard Lazarus presents a unique modification of the cognitive view that is worth looking at. Much like Solomon, Lazarus sees emotions as immediate and virtually automatic recognitions and appraisals of the world, even though they are not conscious to us most of the time.³¹⁵ Lazarus thinks that when we look at emotions we see they typically involve “certain substantive features of the relationship between a person and an environment. Although...most emotions involve two people who are experiencing either a transient or stable interpersonal relationship of significance.”³¹⁶ This relationship involves something significant or personal at stake; it involves dealing with some type of relational harm, either potential or actual. The roar of the bear that I hear in the woods, relationally, makes me fear physical harm to myself from the animal. Finding the car keys missing on the table gives me the relational harm that may come to my well-being if I can’t make it to my medical appointment in time. Lazarus refers to the emotions that are involved in this relational meaning as ‘core relational themes.’ For example: Anger might mean an offense against me or my close friends and family. Anxiety is facing an uncertain threat. Sadness involves an irrevocable loss. Pride is the inflation of one’s own ego. And relief could be viewed as release from a tense situation. The different components of these appraisals focus on ‘motivational variables’ and ‘available coping options.’ When an emotion occurs, there is a process that we go through. This ‘decision tree’ that we follow proceeds from the most general to a more particular reaction.³¹⁷ The decision tree which determines which emotion is going to be exhibited is based on ‘goal relevance.’ If I go to the table to get the keys for my car and find they are missing, the emotion that I feel will depend on how big a goal of mine is being affected. If I am going to miss a vital appointment, I may be angry, but if I – like my partner – was only going to run an unnecessary errand, then I may only feel a moderate or light frustration, or simply shrug my shoulders and go for a walk, or do something else. If a branch breaks and it is because of a bear approaching, I will feel fear, as my life is at stake and one of my most important goals in life is to stay alive. However, if it is a squirrel, then I will exhibit a much weaker emotion, as a squirrel is not much of a threat to my well-being.

This approach, I think, can be much more easily assimilated into a physically-oriented approach (and we will see in a moment how Prinz incorporates one of Lazarus’s ideas into his

³¹⁵ Lazarus, Richard. "Appraisal: The Minimal Cognitive Prerequisites of Emotion." (1994) What Is An Emotion? Classic and Contemporary Readings; second edition. Ed. Robert C. Solomon. (UK:Oxford, 2003), 125.

³¹⁶ Lazarus. "Appraisal." 126.

³¹⁷ Lazarus. "Appraisal." 126-127.

own ‘embodied appraisal’ approach). Lazarus’s view can also be tied in with the work that we’ve explored in this project in chapter 1 when we looked at infant development. One might recall that we described the sensorimotor basis of an infant’s early development of self as they interacted with their environment. Looking at research that was performed on infants, Lazarus found an emerging process in how appraisals developed as the infants grew. If an infant’s arm is restrained at the age of three months, it shows distress. At four months it becomes obviously angry; it looks at whom or what is restraining it, and makes an attempt to free itself. Lazarus thinks this shows that the infant is grasping the fact that a goal it has of being able to move freely is being curtailed. By seven months it will look at the face of the person who restrains it, which suggests to Lazarus that it can recognize the agent as a specific person who is performing this deed.³¹⁸ Taking into account the views of Papoušek and Stern (whom we met in chapter 1), Lazarus thinks that an early sense of self – an attempt to maintain ‘self-esteem’ – seems to be in development as early as the fourth month of life.³¹⁹ Although the anger the infant has in these situations is perhaps not the same as what we see in adults, we can see it emerging and developing. I think that this provides evidence of how a physical and motoric origin response to an occurrence can grow into something which can become more cognitive or judgmental later on. Although Lazarus argues for a cognitive theory of emotion, I think it can be adapted to a hybrid version, which allows for a physical basis that includes a place for development from a minimal amount of cognitive appraisal to perhaps something more in other situations.³²⁰ We now end this chapter by looking at Jesse Prinz’s ‘embodied appraisal’ view. His view brings back a physiological-reaction-based view, but one which includes a type of appraisal like we’ve seen in this chapter. This ‘embodied appraisal’ will give us a good alternative position of how a bodily perception account of emotion can work. At that point we will move on to chapter 8, where we will bring back moods and feelings, and show how a phenomenological approach can further enhance our understanding of emotions and a sense of self.

Prinz’s theory of emotions, departing somewhat from previous physiological-reaction views, is based not so much on how emotions represent internal states of our body, but rather things which we find external to us (if we look back to chapter 6, and Panksepp’s breakdown of the three basic instinctual emotional experiences, Prinz’s focus would not be on (i) the homeostasis of the body, but on (ii) the exteroceptive driven affects). He also does not think

³¹⁸ Lazarus. “Appraisal.” 129.

³¹⁹ Lazarus. “Appraisal.” *ibid.*

³²⁰ We could even say that this new emergent and cognitive development has the ability to re-write the lower, more primal level, but we will have more to say on this in Part III.

we need to rely on cognitive evaluations to help us explain how we use emotions; they are to be understood as perceptions of the body.³²¹ We can understand this by looking at how he (drawing on a distinction made by Anthony Kenny) demarcates between the *formal* and *particular* objects of emotions. An emotion in Prinz's view is something which focuses on the *formal* and not the *particular* object.³²² What does this mean? Let us say I possess the following mental state:

'sadness that my grandmother died.'

In this mental state, the thought of 'sadness' represents the formal (or more general) object of my mental state of 'loss' (i.e. the elimination of something which I hold to be valuable); and the thought 'that my grandmother died,' represents the specific or particular object of this mental state of loss which I am experiencing.³²³ Prinz sees these as constituting two compound ways in which the intentionality of emotions manifest themselves. The general (formal) sadness is associated with death in general: life is something which I value, and thus sadness is an appropriate general reaction to the death of an organism, for it is the elimination of something which is valued. The death of someone close to me is something even more valuable, and that is why the more specific (particular) sadness associated with the death of my grandmother causes a greater intensity to the emotion.

Prinz, by focusing on the formal rather than the particular object, provides a twist to the conception of an emotion. A 'cognitive' or 'judgmental' theory of emotion would seem to argue for our response to the *particular* object, or in the case of Solomon, that emotions might be systematic judgments (i.e. beliefs, desires and other judgments) which typically make up an emotional reaction to a situation. Take the scenario of me becoming angry because the car keys were taken (I am angry *at* my partner, because the *keys* of the *car* were taken, and I will be late for a *specific* appointment). Prinz says: "Emotions are unlikely [most of the time] to have the complex structure that cognitive theorists presume they have. They do not decompose into meaningful, propositionally structured parts."³²⁴ Yet there is still a relational property to an emotion. This relational property Prinz wants to tie-in to some degree with Lazarus's idea of 'core relational themes;' but where Lazarus thought that 'core relational themes' involve inner judgments, or the inner structure or *form* of an emotion, Prinz wants to

³²¹ Prinz. Gut Reactions. 60.

³²² Prinz. Gut Reactions. 62.

³²³ Prinz. Gut Reactions. 63 (relying on a modification of figure 3.1).

³²⁴ Prinz. Gut Reactions. 50.

focus on its *content*.³²⁵ The unstructured representations are better seen in Prinz's view as 'indicators' or 'detectors,' and what these detectors track are the changes that the core relational themes cause in the body.³²⁶ It's time to revisit our scenario of the bear encounter in the forest again to see how Prinz's theme works out. Here is how it maps out:

- (1) The dangerous situation of the roar of the animal and the breaking of branches occurs.
- (2) This is perceived by my mind.
- (3) A series of bodily changes occur as a result.
- (4) This leads to a perception of the body.

The bodily perception is most directly caused by an actual change in the body (the heart begins to race); however, indirectly there is the core relational theme of fear (the direct threat to my well-being) which originally caused or triggered the entire chain of events. This shows in Prinz's view:

“that emotions can represent core relational themes without explicitly describing them. Emotions track bodily states that reliably co-occur with important organism-environment relations, so emotions reliably co-occur with organism-environment relations. Each emotion is both an internal body monitor and a detector of dangers, threats, losses, or other matters of concern. Emotions are gut reactions; they use our bodies to tell us how we are faring in the world.”³²⁷

The bodily changes are preparing us for a response to the situation we encounter. The emotion is associated with a body state 'prototype,' that is, “a mental representation made up of parts that correspond to a range of 'diagnostic features'” in the environment.³²⁸ What we don't find is a single physiological emission that is unique to any single emotion, rather, we end up activating a body state prototype when an appropriate number of its different 'diagnostic features' have been detected in the environment.³²⁹ So, back to the bear in the woods: In (1) we hear a bear roar and branches being broken, based on our location (the woods), and what we know about such environments (there might be bears here), this causes us to tick a series of boxes in the diagnostic features relevant to this area and trigger a reaction

³²⁵ Prinz. Gut Reactions. 65.

³²⁶ Prinz. Gut Reactions. 67, 68.

³²⁷ Prinz. Gut Reactions. 69.

³²⁸ Prinz. Gut Reactions. 72.

³²⁹ Prinz. Gut Reactions. 72-73.

when this is perceived in our mind (2). This then sets and creates the bodily changes in (3), and the bodily perception in (4). We might want to view this as similar to Lazarus's 'decision tree,' where we move from a general reaction to a more particular reaction, but in this case the emphasis is not on some cognitive or judgmental process, but on the bodily perception which results directly from a bodily change. Prinz's 'embodied appraisal' theory of emotion, then, claims that the purpose of emotions is to "monitor our bodily states;" and they "represent changes in organism-environment relations by tracking changes in the body."³³⁰

We have now looked at some hybrid versions of the cognitive appraisal theory of affects and the physiological-reaction view, it seems we can say that although cognitive appraisals and judgments make up *some* of our emotional states of mind, that a case has been made for a physiological-reaction, or kinaesthetic view of affects (affects are kinaesthetic in that – as we saw with Panksepp's primal affects – emotions like 'play,' 'care' and 'lust' give us a feeling and way of interpreting and reacting to the world, and they are based in movement). We came into this chapter with a neuroscientific view of affects developed in chapter 6 which was bodily based – or oriented – in its focus and perspective (Panksepp, Damasio, and LeDoux). We then took up a cognitive interpretation of emotions (through Solomon). From there we looked at difficulties with some of the more 'pure' physical and cognitive theories, and slowly moved toward a hybrid view (through Schachter/Singer and Lazarus) which incorporated ideas from both the cognitive and physiological-reaction perspective, and we ended with a modification (via Prinz) of a physiological-reaction view. What we should see at this point is that the physiological-reaction perspective should have an advantage when it comes to what operates as the core or primary motivation for affective behaviour. The physiological-reaction perspective has a greater importance from a PEMS standpoint, because it demonstrates evolutionarily that it is the physical – action-based – affects which lay the groundwork for the higher-level cognitive-appraisal affects. Affects have an important embodied component which emerges through and with action and action readiness. They are connected (in part) with evolutionary self survival (which Panksepp's seven primal affects demonstrated). These are important components when in search of how personal *mineness* emerges and develops. As mentioned above, the cognitive appraisal view may make up *some* of our emotional states; however, these would not occur at the 'minimal' level of self, but rather at the narrative level of self most of the time – that is where the cognitive judgment view may make its best contribution. But we are not yet done. For further development with this more nuanced view we are now ready to return to investigation into the ideas of moods

³³⁰ Prinz. Gut Reactions. 77-78.

and feelings which have thus far only briefly been touched on in this chapter, and to draw them out to see the phenomenological and existential results that come with further inquiry.

Chapter 8: Feelings, Moods, and the Phenomenological Account of Affects

"In having a feeling for something there is always present at the same time a self-feeling...feeling is not a simple reflection upon oneself but rather a feeling of self in having a feeling for something."³³¹

Our discussion in the last two chapters has focused almost exclusively on situations where some specific affect is triggered, and we looked at how it could have been triggered and what the nature or structure of it is (whether it was some bodily physical reaction or some cognitive judgment). Occasionally we've stepped back to look at the context which may have triggered the affective response, but we have overall been silent when it comes to the larger environment which we find ourselves dwelling in – the 'ways of finding oneself within a world' – which serves as the foundation and background for all our affective reactions to occur. What more can we say about this background state which forms the basis for emotional reactions? We now need to look closer at moods and feelings, and discover what their role is in this inquiry of ours. One of the main people who we will be focusing on in this chapter is Matthew Ratcliffe. When it comes to the relationship between emotions and feelings, he says, feelings "are ways of 'finding ourselves in the world.' Indeed, our sense that there is a world and that we are 'in it' is, I suggest, constituted by feeling."³³² His analysis of this goes under the title 'existential feelings,' and it is to these existential feelings to which we will turn in this chapter to acquire a phenomenological perspective on the issue of affects. It will then be the purpose of chapter 9 to take the insights from Part II (chapters 6-8) and show how they support and shape the idea of the Phenomenological-Enactive Minimal Self.

The exploration of affects we've carried out thus far has been in two areas: we have looked at their bodily or physical basis, and we have seen them understood in terms of some type of cognitive, or mental, appraisal. But is there another perspective to take? One way to look at this is that not only is there a location in the body for an affect, but there is also a 'space of dwelling' that exists, and that the body as a whole can be the basis for an affective experience. Our encounter with Ratcliffe will provide us with a way to explore this idea in more detail. As we said, a *physical* location has been established in various parts of the brain for emotional affects (e.g. the amygdala), but what of a *phenomenological* 'location' of what is

³³¹ Martin Heidegger. *The Basic Problems of Phenomenology*. (IN: Indiana University Press, 1982), 132 (emphasis original).

³³² Ratcliffe. "The Feeling of Being." 43.

being felt? According to Ratcliffe's view the 'phenomenological location' of a feeling is "the part of one's body where one takes the feeling to be occurring...having a sense of where a feeling is occurring does not require that the feeling itself be an *object* of experience."³³³ How might this phenomenological location of a feeling alter our understanding of emotions, feelings, and moods? Ratcliffe states that our relationship with the world "does not simply consist in an experience of being an entity that occupies a spatial and temporal location [...] Ways of finding oneself in a world are presupposed spaces of experiential possibility, which shape the various ways in which things can be experienced."³³⁴ Put succinctly, Ratcliffe wants to argue that: "all intentional states are structured by an experiential background and that this background always incorporates feeling."³³⁵ Ratcliffe's alternative to what we've looked at previously in the last two chapters is going to take the following three ideas as primary:

1. Bodily feelings are part of the structure of intentionality. They contribute to how one's body and/or aspects of the world are experienced.
2. There is a distinction between the location of a feeling and what that feeling is *of*. A feeling can be *in* the body but *of* something outside the body. One is not always aware *of* the body; even though that is where the feeling occurs. (This point shows the change in emphasis from seeking a physiological location for a feeling, to exploring a phenomenological location for it).
3. A bodily feeling need not be an object of consciousness. Feelings are often that *through* which one is conscious of something else.³³⁶

Let's unpack this and see what Ratcliffe is getting at. We saw at the beginning of the previous chapter when we briefly looked at Solomon's idea of what a feeling was that he viewed it as something without direction or intentionality. Ratcliffe wants to take the conception of a 'bodily feeling' and expand it so that it encompasses or includes a part of our structure of intentionality, and this then becomes his new notion of an 'existential feeling.' To better understand the concept of a feeling, Ratcliffe looked to see how the term is used in everyday use. His search showed that the term 'feeling' is not confined to emotional talk; rather, it is used in everyday discourse to specify one's relationship to the world.³³⁷ If we look at the phrase 'the feeling of being...' we find that the everyday usage of this term is usually

³³³ Ratcliffe. "The Feeling of Being." 44, n.1 (emphasis original)

³³⁴ Ratcliffe. "The Feeling of Being." 45.

³³⁵ Ratcliffe. "The Feeling of Being." 30.

³³⁶ Ratcliffe. "The Feeling of Being." 44 (emphasis original).

³³⁷ Ratcliffe. "The Feeling of Being." 45.

completed by words and phrases such as: ‘flawed and diminished’, ‘lost’, ‘in control’, ‘empty’, ‘watched’, ‘there’, ‘abandoned’, etc.³³⁸ These descriptions reflect one’s relationship to the world. They show how the world can appear to us as familiar/unfamiliar, real/unreal, distant/close. Furthermore, these ways of finding oneself in the world “are presupposed spaces of experiential possibility, which shape the various ways in which things can be experienced.”³³⁹ When we are engaged in an activity which is important to us (perhaps building a model), or even if we are doing something mundane or even boring (washing dishes, or going for a walk), these absorbed activities cause our body and our view of our body to fade into the background. Moreover, we can look at those situations found within psychiatry, where the person under consideration has an altered sense of reality, himself, or the world at large (and which may disrupt or distort normal or mundane activities). When this happens, the relationship between the person and the other has changed and is different (clinical depression is a good example of how the person suffering from it has an altered relationship to themselves, others, and the world; we will look at this example in much greater detail in a moment). The body is not simply the locus as an object engaging with other objects, rather the body “is that *through* which things are experienced,”³⁴⁰ and through which we get our sense of *mineness*. It should be quite clear what importance this has when it comes to the PEMS viewpoint. One of the things that PEMS is concerned with is: ‘what is this experiential *givenness* or *mineness* which we possess?’ ‘What can account for this *sense* or *feeling*?’ Ratcliffe’s account should give us that added insight into the phenomenology of the PEMS.

We can perhaps understand Ratcliffe’s position better by contrasting it with the views we covered in the previous chapter. With regards to Solomon and Prinz, Ratcliffe says:

“Prinz unites intentionality and feeling by ignoring experience altogether. Solomon widens the category of ‘judgment’ to such an extent that it is unclear what a judgment is or how the judgements that some call ‘feelings’ differ from other kinds of judgement.”³⁴¹

Let us take a closer look at this critique beginning with Prinz. Ratcliffe thinks that Prinz views “most emotions as passive states, rather than states that we can actively control, they

³³⁸ Ratcliffe. "The Feeling of Being." Ibid. The examples provided above were found when Ratcliffe performed a Google search for the phrase ‘the feeling of being’ and surveying the search results.

³³⁹ Ratcliffe. "The Feeling of Being." 45.

³⁴⁰ Ratcliffe. "The Feeling of Being." 49 (emphasis original).

³⁴¹ Ratcliffe, Matthew. Feelings of Being (UK: Oxford, 2008), 35.

are more like percepts that we are presented with than concepts that we manipulate.”³⁴² This interpretation seems largely correct. We saw with Prinz that if we were to encounter a bear in the woods, the situation would look as follows: (1) There is a dangerous roar of the animal and a breaking of branches (something is happening outside in the world which causes us to jump and our heart begins beating faster). (2) This is perceived by our mind (there is a passive, internal registering within our heads of this outside occurrence). (3) A series of bodily changes occur as a result. (4) This leads to a bodily perception. As Ratcliffe says, this perspective assumes a break between the body and world.³⁴³ Additionally, it dissociates “the intentionality of feelings from their phenomenology.”³⁴⁴ Prinz’s account focuses on the intentionality, but he neglects the phenomenology of the experience. What of the phenomenology of the ‘core relational themes’ or the ‘gut reactions’ which he emphasizes? Prinz doesn’t seem to address that, yet a person’s phenomenological *experience* importantly structures their intentionality toward the world, that is, a person’s background experience structures their intentional states.

When it comes to Solomon, Ratcliffe claims that Solomon broadens the category of judgment to such an extent it could “accommodate just about any behavioural disposition.”³⁴⁵ This seems to be largely correct, for as Solomon has said: “animals make all sorts of judgments (e.g., whether something is worth eating, or worth chasing, or worth courting),” and yet the animals don’t reflect upon any of these things according to him.³⁴⁶ Others have taken issue with Solomon from a slightly different but related emphasis regarding how Solomon distinguishes judgments from other beliefs.³⁴⁷ For example, L. Nathan Oaklander and Richard Gull have said that there is an issue of how Solomon can distinguish emotions from other non-emotional judgments – such as beliefs – since they both seem to have (for Solomon) the same structure of intentionality,³⁴⁸ but surely there is a difference between the intentionality of an emotion and the aboutness of a belief? Even if Solomon were to say (as he does) that emotions are constitutive of a situation and thus can encompass a system of *different* judgments, this still doesn’t help us, since regular non-emotional beliefs do the same thing.

³⁴² Ratcliffe. *Feelings*. 28.

³⁴³ Ratcliffe. *Feelings*. 30.

³⁴⁴ Ratcliffe. *Feelings*. *ibid.*

³⁴⁵ Ratcliffe. *Feelings*. 32.

³⁴⁶ Solomon, Robert. “Thoughts and Feelings: What is a ‘Cognitive Theory’ of the Emotions, and Does It Neglect Affectivity?” (2001) *Not Passion’s Slave*. Ed. Robert Solomon. (UK: Oxford, 2003), 187.

³⁴⁷ Oaklander, L. Nathan, and Richard Gull. “Solomon on The Passions.” (*Noûs*, 12 (1), Mar. 1978), 78, 79.

³⁴⁸ Oaklander and Gull. “Solomon.” *Ibid.*

What Ratcliffe is trying to do is look for a position which can accommodate the features of affective states that Prinz and Solomon's theories don't:

Bodily feelings...are neither states that are altogether bereft of intentionality nor states that can have only the body or a part of it as their object. Instead, they are part of the structure of intentionality. [...] Things are experienced *through* bodily feelings and the body itself may or may not be the most salient *object* of feeling. Even when it is not the object of experience, it still *feels* in a way that is phenomenologically accessible.³⁴⁹

This approach will help us move beyond many of the dualisms which we have looked at between cognition and affect, the internal and the external, and the subject and the object. All of these approaches emphasize or promote a fragmentary way of viewing or interpreting the world and our place in it. Existential feelings – the way in which we find ourselves within the world – are a unitary phenomenon.³⁵⁰ It is the background from where our sense of reality arises. It is the background in which these other attitudes are embedded; it is something which is mostly taken for granted by the previous theorists we've looked at.

Let us take a closer look at an example of existential feelings and how they determine our sense of reality; our focus will be on the experience of severe, clinical depression. Andrew Solomon (not to be mistaken for Robert Solomon), has written about what major depression feels like for the sufferer. The description is worth citing at length. He describes the general feeling as follows:

To be creatures who love, we must be creatures who can despair at what we lose, and depression is the mechanism of that despair. When it comes, it degrades one's self and ultimately eclipses the capacity to give or receive affection. It is the aloneness within us made manifest, and it destroys not only connections to others but also the ability to be peacefully alone with oneself...In depression, the meaninglessness of every enterprise and every emotion, the meaninglessness of life itself, becomes self-evident. The only feeling left in this love-less state is insignificance.³⁵¹

[Depression] is tumbleweed distress that thrives on thin air, growing despite its detachment from the nourishing earth. [...] Such depression takes

³⁴⁹ Ratcliffe. *Feelings*. 36 (emphasis original).

³⁵⁰ Ratcliffe. *Feelings*. 8.

³⁵¹ Solomon, Andrew. *The Noonday Demon*. (UK: Vintage, 2001), 15.

up bodily occupancy in the eyelids and in the muscles that keep the spine erect. It hurts your heart and lungs, making the contraction of involuntary muscles harder than it needs to be. Like physical pain that becomes chronic, it is miserable not so much because it is intolerable in the moment as because it is intolerable to have known in the moments gone and to look forward only to knowing it in the moments to come.³⁵²

It is not pleasant to experience decay, to find yourself exposed to the ravages of an almost daily rain, and to know that you are turning into something feeble, that more and more of you will blow off with the first strong wind, making you less and less. [...] Depression starts out insipid, fogs the days into a dull colour, weakens ordinary actions until their clear shapes are obscured by the effort they require, leaves you tired and bored and self-obsessed. [...] Major depression is a birth and a death: it is both the new presence of something and the total disappearance of something [this birth and death occur at the same time].³⁵³

In the onset of depression, Solomon uses by way of illustration the analogy of the branches of a vine as one of the things that are born from depression; and as for the death that depression causes:

The death is one's own decay, the cracking of the branches that support this misery. The first thing to go is happiness. You cannot gain pleasure from anything...But soon other emotions follow happiness into oblivion: sadness as you had known it, the sadness that seemed to have led you here; your sense of humour; your belief in and capacity for love. Your mind is leached until you seem dim-witted even to yourself. If your hair has always been thin, it seems thinner; if you have always had bad skin, it gets worse. You smell sour even to yourself. You lose the ability to trust anyone, to be touched, to grieve. Eventually, you are simply absent from yourself...you are less than yourself and in the clutches of something alien.³⁵⁴

These passages powerfully describe the sense of alienness that overcomes a sufferer of severe depression. You can see that it affects the way he *thinks* about himself within the world and

³⁵² Solomon, Andrew. Noonday Demon. 16.

³⁵³ Solomon, Andrew. Noonday Demon. 17.

³⁵⁴ Solomon, Andrew. Noonday Demon. 19.

how he *feels* about himself within the world; his entire perspective on the world and the way his senses perceive it changes into something unrecognizable. Neurobiologically, depression can be affected by drugs that can alter the brain chemistry, but this won't resolve the problem. "Drug therapy hacks through the vines...poisoning the parasite so that bit by bit it withers away," but as he says, "even with the vine gone, you may still have few leaves and shallow roots, and the rebuilding of your self cannot be achieved with any drugs that now exist." The "Rebuilding of the self in and after depression requires love, insight, work, and, most of all, time."³⁵⁵ We see here how our bodily feelings can alter our relationship with the world, and how various objects, persons, and situations alter their appearance in this new reality; the first-personal sense of experiential *mineness* becomes distorted. We can also see how all of this is a unitary phenomenon – it presents an entire way of perceiving, interacting with, and dwelling within the world. Robert Solomon, our advocate of the cognitive theory of emotion, has argued that depression "is a self-imposed purge," that it is a way of "wrenching ourselves from the established values of our world."³⁵⁶ He says that although it can sometimes be pathological, it is not in itself pathological and may even be essential to a person's normal life, of overcoming obstacles, and of self-realization (consider for example an artist who experiences a burst of activity after a depressing episode).³⁵⁷ (Robert) Solomon makes several other claims about depression. First, like a mood (on his interpretation), depression can spread out in all directions, however, he thinks it is primarily directed 'inward, toward oneself.' He also says there is an all around negative *evaluation* of everything. He says the *responsibility* is usually self-blame or guilt. And he says the *strategy* is "[t]o shake oneself loose from the outmoded sludge of encrusted tasks and values which one finds worthless."³⁵⁸ This idea that our depression involves 'evaluations', 'responsibility' and 'strategies', might possess some truth for someone suffering from a mild depression, but for someone caught within a major depression, it is *not* a cognitive 'evaluation,' 'strategy,' or 'self-imposed purge,' but rather a sense of being-in-the-world which they find themselves in.³⁵⁹ The example above should have shown us why a cognitive theory of emotion based on judgments and beliefs cannot provide us with a complete understanding of certain experiences of the world. A phenomenological description of depression plays an important role in providing us with that extra insight and understanding into a completely new way of dwelling within the world. In general then, the feeling of our sense of reality is *not* something which is *added* to our experience, it *is*

³⁵⁵ Solomon, Andrew. Noonday Demon. Ibid.

³⁵⁶ Solomon, Robert. The Passions: Emotions and the Meaning of Life. (IA: Hackett, 1993), 237.

³⁵⁷ Solomon, Robert. The Passions. Ibid.

³⁵⁸ Solomon, Robert. The Passions. 238, 240.

³⁵⁹ Ratcliffe. Feelings. 62 n10.

something which changes the very *structure* of our experience.³⁶⁰ As the examination of severe depression demonstrates, our normal sense of *meaningfulness* is perversely mangled into the exact opposite. Our normal, everyday being-in-the-world decays and fades, the self is distorted; the structure of our first-person experience changes, the PEMS is put at risk.

Severe clinical depression is a dramatic case, what about a less severe mood? Consider anxiety. Solomon thinks that anxiety is directed at the whole world – at anything and everything we find in it. It is a desire on our part to ‘hide,’ or make ourselves ‘disappear.’³⁶¹ But as Ratcliffe has rightly pointed out, “by regarding moods as emotions that are directed at the world as a whole, he [Solomon] fails to characterize the distinctive way in which certain ‘emotional’ states constitute a sense of belonging that is presupposed by any object-directed state.”³⁶² Moods attune us to the world. When the familiarity through which we encounter and engage with things and people in the world starts to fall away, this creates anxiety within us. The practical familiarity we had with the world has eroded; there is an absence with how we connect to things in the world. As Martin Heidegger said: “anxiety is not an entity within-the-world [...] [i]n anxiety one does not encounter this thing or that thing which, as something threatening, must have an involvement.”³⁶³ When we are no longer feeling anxiety, we many times say that ‘it was really nothing,’ what had oppressed us at the time was not a particular object or thing in the world which we were focusing on, but rather certain *possibilities*. When familiarity falls away and our possibilities become murky, we develop a genuine apprehension of what we might call ‘the nothing.’ The inability for us to pinpoint a specific object or thing produces anxiety, and thus the familiar becomes unfamiliar.

There is another way we can look at what existential feelings have to tell us about our self and our interpretation of the world. Ratcliffe draws on the concept of a ‘horizon’ that is discussed by Edmund Husserl and Maurice Merleau-Ponty. This view says there is a horizontal structure to experience.³⁶⁴ When we gaze at the world, we are not just seeing static objects in a certain way and from a certain sense modality, but rather as the space of possibilities that might arise in situations as they unfold.³⁶⁵ This is not just a theory of perception, this just as importantly is our way of belonging to the world – a shared world; feelings are an essential component of our way of experiencing this shared world. A clear case where we can see this

³⁶⁰ Ratcliffe. *Feelings*. 75.

³⁶¹ Solomon, Robert. *The Passions*. 231..

³⁶² Ratcliffe. *Feelings*. 50.

³⁶³ Heidegger. *Being and Time*. 231.

³⁶⁴ Ratcliffe. *Feelings*. 130.

³⁶⁵ Ratcliffe. *Feelings*. 131, 133.

in operation has to do with those who suffer from autistic spectrum disorder (ASD). It is believed that those with ASD have problems with their mirror neuron system (see chapter 2 to revisit the details on this subject). Peter Hobson has argued that the main deficit that an ASD person has is the lack of emotional connection with others. A child with ASD does not react to the emotional expressions that appear on another's face as someone non-autistic might do, instead, if they are presented with the photograph of someone smiling, they don't recognize the smile as representing happiness or approval, but rather a face that is contorted.³⁶⁶ Additionally, if ASD children are given the task of imitating the way a person uses different objects in a room, the children with ASD don't imitate the *person* like a typical subject might, but instead simply imitate the *action*.³⁶⁷ These studies show that ASD impairments critically damage the person's social and affective forms of imitation – the dynamic possibilities for interaction are reduced by just interpreting the action, and not the whole person. Coming back to the discussion of existential feelings, we can see here that in cases of ASD there is a diminished sense of the personal. Hobson says that “[t]o be emotionally connected with someone *is* to experience the someone else as a person,”³⁶⁸ and this is something which is lacking in those with ASD; and this is why those with autism frequently do not make eye contact with others and seem distant and detached from other people. We saw in the infant studies in chapter 1 that a baby discovers the type of person it is through the affect attunement or emotional connectedness with its caregiver and others. It is a means of feeling and sharing things in all the various dynamic possibilities. “We have a basic human response to expressions of feelings in others.”³⁶⁹ If the autistic person is responding to the ‘action’ and not the ‘person,’ then this will alter how they view their possibilities for interaction within the world. It seems we can say that the existential feelings that Ratcliffe talks about, although they may not entirely constitute our sense of self, are nonetheless an important and vital component of what helps constitute who we are.³⁷⁰

A question can be asked regarding these ‘existential feelings’: how accessible are they to our conscious awareness? In chapter 3 we looked at proprioception through, in part, the work of Shaun Gallagher. There we saw that proprioception contributes to the background structure of how our external senses operate in the world – it provides us our experiences of our posture as we sit and type, and of our gait as we walk across the room to pull a book off a

³⁶⁶ Hobson, Peter. *The Cradle of Thought: Exploring the Origins of Thinking*. (UK: Pan Books, 2002), 14.

³⁶⁷ Iacoboni, Marco. *Mirroring People: The Science of Empathy and How We Connect with Others*. (NY: Picador, 2008), 172.

³⁶⁸ Hobson. *The Cradle of Thought*. 59 (emphasis original).

³⁶⁹ Hobson. *The Cradle of Thought*. 60.

³⁷⁰ Ratcliffe. *Feelings*. 120.

book shelf. In chapters 3 and 4 we also looked at the differences between the pre-noetic corporeal-kinetic patterning (CKP), which shapes our experience without our knowing, behind our conscious awareness, and the noetic – or overtly conscious – corporeal-kinetic intentionality (CKI), where we attend in an intentional way to some aspect of our body. Where would existential feelings fall within these categories? At first we might be inclined to say that existential feelings are akin to CKP, in that they emphasize the background framework which lays the groundwork for how we experience the world. As you might recall, Gallagher says the body schema (i.e. CKP) is not phenomenologically accessible to us on a conscious level under most circumstances: in his words, “[a] prenoetic performance is one that helps to structure consciousness, but does not explicitly show itself in the contents of consciousness.”³⁷¹ Ratcliffe adds to this by saying that prenoetic performances are “not part of experience, [they are] an implicit background that underlies all experience, a set of capacities that shape experience but are not themselves experientially accessible.”³⁷² Just as a normal CKP occurrence lies outside our conscious awareness until something occurs which causes us to focus on it (entering it into our CKI), this seems to be true with existential feelings. They many times only enter into conscious awareness when there has been some change in our bodily interaction with the world, that then reveals the structure of our experience which we had until that point taken for granted. It only becomes conspicuous when there is a disturbance.³⁷³ However, when it comes to existential feelings, Ratcliffe says they *are* accessible to us on a phenomenological level. He says that although “[e]xistential feelings are not ‘objects’ of everyday awareness...they are indeed ‘felt’ in some way.”³⁷⁴ Most of the time we are sitting at our desk, it is a pre-noetic CKP occurrence which lies outside our reflective awareness, but it provides us with a structure to our experience of the world; an existential feeling, on the other hand, such as a feeling of being abandoned, also structures our experience of the world, but in addition is something which we feel. It gives us a sense of belonging to the world (or perhaps sometimes, *not* belonging), but it is not something which we normally reflect upon. So, although these existential feelings may not be ‘objects’ of our awareness, we do in some way ‘feel’ them.

In chapter 8 we have encountered two main groups of people with psychological disorders: those with severe depression, and those with autistic spectrum disorder (ASD). In the first case we saw how an existential feeling of severe depression severely limits a person’s

³⁷¹ Gallagher, Shaun. How the Body Shapes the Mind. (UK: Oxford, 2005), 32.

³⁷² Ratcliffe. Feelings. 128.

³⁷³ Ratcliffe. Feelings. 10.

³⁷⁴ Ratcliffe. Feelings. 129.

view of what opportunities and actions they have in the world. In cases like this, a person with clinical depression may be extremely lethargic and not be able to do anything, and simply curls up and gives up on all actions, or they may become over-excited and wander around in a frenetic way, desiring to do something, but having no understanding or hope regarding what it might be. In the second case, we saw that ASD severely limits a person's ability to understand or relate to other people's feelings; rather, people appear more as objects. What we see in the depression case is that if you can't see the world as a world of action and possibility, then the very ability 'to be' oneself is impaired. In the case of severe depression a sufferer may see themselves as 'less than' what they used to be, or perhaps unable to achieve what they want to be, or even – in the worst case scenario – as having an actual negative impact on themselves, others, and the world, and may attempt suicide. Not only is any sense of a robust or narrative self impaired in such a case, but even their PEMS is impaired, since possibilities for the self at the most primal affective level (e.g. a reduction of 'care,' 'seeking' and play) are inhibited, or are stripped from their horizon of possibilities. In cases of ASD, a robust or narrative self can never fully develop, since even the PEMS, which encompasses some kind of understanding of 'other' is impaired or undeveloped to some degree, due to a reduction in the ability to understand the 'meaning' of another's movements.

Chapter 8 has seen us try to fit 'existential feelings' in with CKP and CKI. This has allowed us to make our understanding of these phenomena more sophisticated. As Ratcliffe points out, existential feelings "participate in all experiences, albeit as something that is usually pre-reflectively taken for granted. There is, however, a fine line between what is phenomenologically accessible and what is not. It is primarily through changes in existential feelings that we can catch a 'glimpse' of them."³⁷⁵ This is why Sheets-Johnstone's kinaesthesia idea works better, for the term involves ideas of 'motion' and 'feeling;' sometimes this felt movement is consciously reflected upon, other times it is a pre-reflective phenomenon. What is essential is that it is this felt movement which generates our sense of *mineness*. Although my emphasis on the bodily motion aspect is more than what Ratcliffe would perhaps want to accept for his idea of existential feelings, I think his idea of 'existential feelings' provides an essential phenomenological addition and support for the PEMS view.³⁷⁶ Dynamic forms of vitality were given life in Part I through infant/caregiver interaction; the insights on existential feelings have directed us towards another vital component of how dynamic forms of vitality operate, by indicating how our being-in-the-world operates; through an example like severe

³⁷⁵ Ratcliffe. *Feelings*. 128.

³⁷⁶ See the next chapter for the greater importance of bodily motion connected with Ratcliffe.

depression, we saw how our sense of *mineness* can fade away. A broadly conceived Phenomenological-Enactive Minimal Self needs to draw on many different perspectives (for the self is a broad and many splendored thing!), what Ratcliffe provides is an insight into how a change in possibilities or opportunities – which rely on courses of action – is such an important aspect of understanding the self, for it is a phenomenological insight into how an impairment in options for actions actually *feels*.

Chapter 9: Affects and the Phenomenological-Enactive Minimal Self

"Although we experience ourselves as things, as fixed entities occupying a physical space in the world, we are in reality a process, a continuous unfolding in time, constantly becoming."³⁷⁷

We've spent three chapters examining and critiquing different approaches to understanding emotions, moods and feelings. How do we interpret our findings from the PEMS perspective? Chapter 6 gave us a physiological-reaction view, chapter 7 presented the cognitive viewpoint and responses to it, and chapter 8 provided the phenomenological viewpoint as being of importance. The PEMS view wants to emphasize the phenomenological perspective as the most important when it comes to understanding *ipseity*. PEMS also wants to say that the physiological-reaction view holds greater importance than the cognitive view (PEMS admits that the cognitive view is important, it would just place it at a different level than the 'minimal' level of self, that is to say, whatever the cognitive view can contribute will most of the time be taking place at the level of the narrative self). What we can do at this point is show how the three different elements of affects that we've looked at (physiological-reaction, cognitive and phenomenological) fit together, and how they relate to the PEMS. Let us start with Panksepp, our main figure from chapter 6. Jaak Panksepp has elsewhere put forth a theory of what he thinks constitutes a self.³⁷⁸ The theory is interesting not only for the idea of self that he puts forward, but also as a way of conveying his arguments for the evolutionary origins of affects.

We are beginning to see how affects have a phylogenetic basis in corporeal-kinetics, and how this produces the first-personal experiential *mineness*. Panksepp has a theory of self which he developed based on this type of affective neuroscience, which PEMS draws upon for some of its support. Panksepp supports the idea of a 'SELF' (which stands for Simple Ego-type Life Form).³⁷⁹ The primal SELF of Panksepp is based on the neural schema of bodily actions that create the primitive affective values that provide us our raw subjectively experienced feelings. He also thinks this may serve to help us conceptualize our higher forms of

³⁷⁷ Feinberg. *From Axons to Identity*. 210.

³⁷⁸ Panksepp, Jaak. "The Periconscious Substrates of Consciousness." *Models of the Self* Eds. Shaun Gallagher and Jonathan Shear. (UK:Imprint Academic, 1999).

³⁷⁹ Panksepp. "Periconscious Substrates of Consciousness." 113.

consciousness.³⁸⁰ When we think of a self, we usually think of some kind of stable mental presence that gives us our unity and continuity of experience. What Part II has shown is that this has a strong basis in affects. The roots of this self according to Panksepp emerge from sensorimotor circuits in the mammalian brain that “generate a primitive sort of intentionality [a type of action readiness] and primitive forms of psychic coherence (global affective states of the brain) by interacting with various emotional and attentional circuits that encode basic biological values.”³⁸¹ When you take a ‘primitive sort of intentionality’ or action readiness, and add to it a sort of ‘psychic coherence’ that can last over time, you arrive at something that fits closely with the PEMS I am arguing for. Let us examine the ‘five assumptions’ that Panksepp’s view of SELF is based on and compare and elaborate upon it with an enactive approach based on corporeal-kinetics.

1. We have a ‘primordial self’ which arises from ‘body-linked brain processes’ which we share homologously with other members of the animal kingdom. This is something we’ve already looked at and shouldn’t be controversial.
2. Our consciousness evolved from unconscious neural processes. These neural processes have served as an important and essential element for all our higher levels of analysis, as well as our ability to recognize the primordial connection which exists between these unconscious and conscious processes. Furthermore, “every moment of our conscious lives is undergirded by feelings” and if this infrastructure were inhibited or destroyed in some way, our sense of self would degrade.”³⁸² This supports the PEMS view that as living entities we are agents that generate and maintain our own identities, and if we disrupt this process, then the whole organism is affected. So at any point if there is a disruption in the homeostasis of the body, the exteroceptively driven affects, or the emotional affects, then this will alter our sense of self. The amount of disruption we are talking about depends on whether it is a minor or major change (go back to the discussion of Rudrauf and Damasio’s idea of variance and resistance in chapter 6 for an example of this). The PEMS view agrees that this affective process is based (in part) on sensorimotor neurons (amongst other things), and as we have seen with Panksepp, affects have their origins in action-based behaviours. Actions *and* affects are part of our corporeal-kinetic make-up; they are an integral part of our dynamic forms of vitality that give us that phenomenological sense of personal *mineness*.

³⁸⁰ Panksepp. “Periconscious Substrates of Consciousness.” *ibid*.

³⁸¹ Panksepp. “Periconscious Substrates of Consciousness.” 114.

³⁸² Panksepp. “Periconscious Substrates of Consciousness.” 114.

3. When it comes to the hard problem(s) of consciousness, perhaps the hardest of these is trying to understand the most evolutionarily basic qualitative experiences which tell “organisms where they stand with respect to environments and actions that will enhance or detract from the likelihood of their own survival as well as of their kind.” Panksepp calls these most basic and ancient qualitative experiences ‘evolutionary qualia’, or more succinctly: ‘equalia.’³⁸³ This evolutionary understanding of our qualitative experiences of how we stand within our contextual situation can be seen as part of a larger mammalian aspect of our dynamic forms of vitality. It shows that there is phylogenetic basis that appears in other mammalian and animal life forms that strengthens the connection between us and them.
4. The mechanisms that underlie our sense of self, or selfness, are “a neural process that is re-represented hierarchically at many levels of neural and mental development.” So if we view this neural hierarchy as a tree, then although the roots and perhaps even the trunk of this tree are processes which we share with other mammals, the upper branches and canopy provide means for variation. The most important level of these neural processes, Panksepp says, has to do with “the interface between the unconscious properties of neural tissues and those that permitted the emergence of consciousness. I refer to the latter as the ‘periconscious substrates of consciousness.’”³⁸⁴ In chapter 10 we will look in much greater depth at problems that arise from a hierarchical system of consciousness, so this discussion will have to wait until later. Suffice it to say for the moment, these ‘neural processes that can be re-represented hierarchically,’ can be explained using what neuroscientist Todd Feinberg calls a ‘nested neural hierarchy.’ This is a system which can fit within a PEMS framework; again, more on this later.
5. Panksepp tells us that if we want to establish the self on ‘stable neural coordinates,’ that we will find that the “sources of primary process core-consciousness are intertwined more intimately with intrinsic motor than with exteroceptively driven sensory processes.”³⁸⁵ This is important because it brings to the front of the discussion the pivotal role of motor processing in providing an anchor for the ‘periconscious substrates of consciousness.’ Panksepp emphasizes:

³⁸³ Panksepp. “Periconscious Substrates of Consciousness.” 114.

³⁸⁴ Panksepp. “Periconscious Substrates of Consciousness.” 114-115.

³⁸⁵ Panksepp. “Periconscious Substrates of Consciousness.” 115.

“Although highly valenced feelings can certainly be triggered by external events and higher appraisals [...] the most fundamental forms of affective consciousness within the mammalian brain arise from a neurodynamic scaffolding that provided a stable self-referential set of internal motor coordinates upon which various sensory and higher perceptual/learning mechanisms could operate.”³⁸⁶

These five points of Panksepp’s primal SELF add a piece to the PEMS view. With Stern and the others involved with infant development, we saw how a minimal self emerges in our early human development. Now with Panksepp we see this fit within a much larger mammalian-evolutionary picture that also includes feelings and emotions as a vital component. We can see how developmental psychology is supported by an evolutionary affective neuroscience. Both views show that corporeal-kinetics are vital for giving us the forms of vitality that fill us with the phenomenological *feeling of meaningful* existence; it is Panksepp’s neuro-centrism which is questionable from the PEMS perspective, PEMS accepts Panksepp’s affective neuroscience as simply *one* of the important components of meaningful, felt existence. Affects are linked with action – or action potential (as shown by Panksepp), and corporeal-kinetics ties in with vitality dynamics (as Stern and others demonstrated). Notice in this summary that consciousness is based in feelings, that these neural processes – although occurring at many levels – are tied in with motor processes which anchor the ‘periconscious substrates of consciousness.’ Some of these ideas should call to mind what was covered in Part I on the bodily self. There we saw a sensorimotor basis to our understanding and use of our body, and this motoric basis was located to a great extent in the pre-noetic and pre-reflective corporeal-kinetic patterning and basic proprioceptive processes. Panksepp’s theory includes emotions and feelings as part of a similar process. We should be able to see now a larger perspective emerging and many strands from diverse areas beginning to come together.

How does the PEMS view relate to ‘cognitive’ theories of emotion? Chapter 7 introduced various ‘cognitive judgment’ approaches to affects, with a strong emphasis on Robert Solomon’s view. Dominant views regarding affects in the last 30 years have focused a great deal on this perspective. If such views had held up, then the PEMS view would hold less strength because what I have argued is an important aspect of our minimal *ipseity* could be associated, in a fundamental way, with higher-level cognitive occurrences. Our exploration of

³⁸⁶ Panksepp. “Periconscious Substrates of Consciousness.” *ibid.*

the situation in chapter 6, however, showed that affects have a deeper underlying basis that is based on intrinsic, instinctual, action-based behaviour, and chapter 8 showed how affects – such as moods and feelings – make up the phenomenological background for our higher level thoughts. Thus, the 6th chapter served as the link between these two views.

Whereas neuroscientists such as LeDoux, Panksepp and Damasio focused on emotions that took place in a matter of seconds, Solomon wanted to explore emotions that spanned several minutes. Rather than focus on automatic responses, he wanted to emphasize these longer-term emotions that were in his view purposive and rational judgments; they involve something that we *do*, analogous to choosing a course of action. The example we looked at involved desiring to use the car to get to an appointment and finding that our partner had taken the keys and the emotional anger or frustration we would feel as a result. These emotions are an evaluative judgment in Solomon's view. The thought was that if I am angry at my partner for taking the keys, I am angry at her for a particular reason that is built up from a series of other rational judgments and appraisals that are constitutive of a situation, and the thought was that there are particular objects/persons/situations that figure in the judgments (i.e. I have *an* appointment, I need *the keys* to drive there, my *partner* also uses the car, there are considerations of how *long* I need to get there, and what *route* I might take, etc).

Panksepp's objection to this view, however, clearly represents a PEMS-friendly response:

“[C]ore feeling dynamics cannot cognitively reflect on themselves, but they may be experienced as cognitively unadulterated forms of pure affective livingness that may be an essential foundation for all higher mental functions. [...] Perhaps many individuals lose touch with...such emotional values as they cognitively mature. [...] Thereby, affects may become part of our dynamic subconscious. Still, those ancient aspects of mental life probably continue to influence our emotional experiences from birth to death.”³⁸⁷

‘Cognitively unadulterated forms of pure affective livingness’ is a terminological match to the idea of ‘dynamic forms of vitality’ that we’ve so frequently focused on. We saw these dynamic processes in regards to infant development and how infants interact with their caregiver, and here we see it including affects, along with seeing it connected to a much larger evolutionary developmental picture (think of Panksepp's primal affects of ‘play,’ ‘care’ and ‘seeking,’ which

³⁸⁷ Panksepp, Jaak. "On the Embodied Neural Nature of Core Emotional Affects." Emotion Experience Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 179.

build up our relationships with the environment and others'; our sense of meaning in the world is constituted by these encounters and interactions – as opposed to higher-level cognitive occurrences). This passage shows how our experiences and interactions early on become laid down in us and become part of our minimal self; these core feeling dynamics are a foundational framework which maintain themselves as a constant element of our being, most of the time while not being aware of it (much of the time the primal affects may go unnoticed by us), yet they remain there giving us that sense of unity that provides us that feeling of *mineness* (i.e. that first-personal mode of the experience we are having as being *my* experience); or that sense of ownership that it is *me* that is stuck in this mood. The learning of *when* and *how* to experience these affects, one could argue, comes through a corporeal-kinetic patterning (CKP) which serves as part of the process by which they are formed. We can quote again one other point Panksepp makes:

“Primitive emotional feelings appear to lie at the core of our beings, and the neural mechanisms that generate such states may constitute an essential foundation process for the evolution of higher, more rational, forms of consciousness.”³⁸⁸

We can see here that these ‘core feeling dynamics’/‘primitive emotional feelings’ (a) come before – and do much of the work of – the judgments that Solomon focuses on, as well as (b) supporting the PEMS position.

As mentioned already, when we get to chapter 10 we will explore Todd Feinberg’s concept of a ‘nested neural hierarchy.’ The details will have to wait till later, but for a brief teaser of what is to come, think of these nested neural hierarchies as three interlocking systems which we can envision as three concentric circles. The most interior of these he calls the ‘interoself system,’ it is associated with the evolutionarily most ancient part of the brain, and its function is to regulate the homeostatic bodily systems of the organism (i.e. self-protection, other instinctual responses, and pain, hunger, and thirst). These regulatory systems that Feinberg presents fit neatly into Panksepp’s conception of the self (with its emphasis on homeostatic equilibrium and exteroceptive responses). All that we need to do is take Panksepp’s ideas and transfer them into a nested neural hierarchy relationship and the result is an account of affects – along with Feinberg’s neuroscientific account of consciousness – that fits within the PEMS account of the Self. Step-by-step we are beginning to see that the PEMS view encompasses a corporeal-kinetic development of the human infant, an

³⁸⁸ Panksepp. “Periconscious Substrates of Consciousness.” 113.

evolutionary development of the human mammal, an understanding of the origins, function, and role for affects, and an enactive understanding of consciousness.

Another notion which we encountered in chapters 6 and 7 is Antonio Damasio's idea of the 'as-if body loop,' or 'simulated body states,' which we saw had connections with the insights found in mirror neuron research. Damasio's idea that 'the brain can simulate certain body states as if they were occurring,' is consistent with the corporeal-kinetic patterning (CKP) we've looked at with Sheets-Johnstone. Think of the 'as-if body loop' as one of the mechanisms of the CKP, much like we argued for the role mirror neurons played in CKP in Part I, only in this case we are expanding upon this idea to understand how affects fit within this picture. This patterning is something established and developed early on, and becomes something which we can rely on later in life. Damasio's development of this idea extended beyond mere body simulation (i.e. mirror neurons), and tied-in with affects as well. This came alive for us with the example we returned to often regarding the encounter we have with an angry bear in the forest and the reaction we have at that time and the way we emotionally prepare ourselves in the future when we revisit that area. We saw at the time that the alleged complicated structure that Solomon thought we had in using a series of evaluative constitutive judgments could be (at least partially) explained through this type of 'contextual conditioning' (to use LeDoux's terminology). We also do not have to just focus on the evolutionary or early developmental aspect of this PEMS, for we can see that CKP and contextual conditioning are phenomena which continue throughout our entire lives. Think of the culture shock associated with a major move to another country. When I left Minnesota in the United States and moved to Scotland, I had to adjust to new cities, city layouts, means of transportation, differences in language use, styles of humour, means of expressing oneself, etc. This required a corporeal-kinetic adjustment, and new types of contextual conditioning for new physical and social contexts. In situations such as these there is a period of adjustment where the person has to find a new way to settle-in and get comfortable in the new environment, for old and comforting ways of getting about and through various situations may not be available, since people may use different gestures, and body language, and over time these differences stack up and there is no recourse to the familiar that one could so easily fall back on when they were in their original home. So in cases like these the processes of contextual conditioning and CKP are adjusted. Sometimes this adjustment is something we are aware of, but bodily and affectively much of this will be occurring in the background.

Chapter 8 presented a PEMS-friendly phenomenological approach to affects, mostly through Matthew Ratcliffe's idea of 'existential feelings.' We saw through Ratcliffe's analysis

that there is a background sense (or bodily feeling) of personal belonging to the world – a *sense* of reality. Ratcliffe argues that “[b]odily feelings...are not altogether bereft of intentionality nor states that can have only the body or a part of it as their object. Instead, they are part of the structure of intentionality.”³⁸⁹ He goes further and says, “Things are experienced *through* bodily feelings and the body itself may or may not be the most salient *object* of feeling. Even when it is not the object of experience, the body still *feels* in a way that is phenomenologically accessible.”³⁹⁰ These ‘existential feelings’ are supportive of the account which I want to emphasize for the development of the PEMS. Ratcliffe claims that there is a horizontal structure to our experience, in that as we gaze at the world what we see is a space of possibilities that might arise as different situations could unfold. The examination of depression demonstrated that with a restricted PEMS, a person’s possibilities wither away and their entire sense of self and worth fade. This world of possibilities is not simply *our* world, but a world which includes *others* as well; so if a person is overcome with severe depression, their interaction with – and reaction to – other people can become strained or crumble as the person they were becomes unrecognized to their friends (and their friends may become unrecognized to the depression sufferer). A world of possibilities and opportunities is an idea based in action and intentionality. Affects are part of this process, we live *through* the body and there is this essential link between body and affects and our sense of *mineness*.

But what of enactivism – how does that fit in? In this case let us focus on Giovanna Colombetti and her idea of an ‘enactive appraisal.’ She thinks “that appraisal is constituted by arousal and action,” and her arguments are designed to show how that idea relates “to an embodied and affective notion of personhood.”³⁹¹ She objects to some approaches to understanding affects because of what she describes as their ‘corporeal impersonalism.’ This is the idea that an appraisal (which is usually viewed as a cognitive process separate from the body)³⁹², is “an objective index of emotion, rather than...the processes of a *lived body*.”³⁹³ Colombetti’s enactive approach of affective appraisals sees them as *constituted* by bodily events (such as states of arousal and actions). In terms of our inquiry in chapter 7, corporeal impersonalism and this detached and objective type of appraisal may be found in Schachter and Singer’s ideas that the experiences of the body had to be ‘interpreted’ in some way; the

³⁸⁹ Ratcliffe, Matthew. *Feelings of Being* (UK: Oxford, 2008), 36.

³⁹⁰ Ratcliffe. *Feelings*. *Ibid* (emphasis original).

³⁹¹ Colombetti, Giovanna. "Enactive Appraisal." (Phenomenology and the Cognitive Sciences, 6, 2007), 527.

³⁹² With the meaning of ‘separate from’ depending on the specific cognitive appraisal theory we are dealing with.

³⁹³ Colombetti. "Enactive Appraisal." 528 (emphasis original).

bodily events occur and then have to be 'interpreted' in some way, and it is this interpretation which confers meaning to the emotion.³⁹⁴ Lazarus fits within this category as well, for he views cognitive processes as necessary and sufficient for affects, that is: since arousal and behaviour are to be viewed as the effects of the appraisal process, the emphasis on how to explain affects is put on the appraisal process itself.³⁹⁵ We saw how Solomon fits within this category with his idea of affects being beliefs or judgments. All of these approaches tend to view the body as an object rather than part of lived experience. Even Prinz, who spoke of 'embodied appraisals' still utilized a passive conception of embodiment with there being a cognitive 'appraisal' element. The work that enactivism will do is bring back the *active* body we saw throughout Part I, and this should provide part of the muscle to support the phenomenological viewpoint.

Preferable to corporeal impersonalism is the enactive perspective. According to Colombetti and Evan Thompson, several major ideas make up an enactive approach to affects. The most important of these are:

- (i) The cognitive and sensorimotor structures mutually modulate each other due to coupling between the organism and environment (think back to how the mirror neuron system described in chapter 2 operates, or the as-if body loop described in chapter 6). Thus, "the whole embodied organism can be seen as a self-organized autonomous system that creates meaning."³⁹⁶ Meaning is brought forth through this self-organized sensorimotor coupling (think back to the infant discussion in chapter 1, or the emotional learning we encountered in chapter 6).
- (ii) The world of the agent is not prespecified or represented in the brain internally, but is instead relational in form. This relational domain is enacted or brought forth through the way in which the organism and environment are coupled. This provides us a link with phenomenology. We have a constitutive relationship between ourselves and the environment. That is, the sense in which the world is given to and experienced by a subject is conditioned by the subject through their being-in-the-world; this being-in-the-world is frequently something which lies below reflective awareness (we saw this throughout Part I as well as chapter 8). Thus to

³⁹⁴ Colombetti. "Enactive Appraisal." 532.

³⁹⁵ Colombetti. "Enactive Appraisal." 533.

³⁹⁶ Colombetti and Thompson. "The Feeling Body." 55.

reveal this understanding we need to engage in phenomenological and enactive analysis.

- (iii) Understanding experience is of central importance to our understanding of the mind of an agent. What Part II has shown us (in chapters 6 through 8) is that affects are an inseparable part of our experience. More broadly speaking, this point is another link between enactivism and phenomenology. It requires that we engage in a dialogue between cognitive science and phenomenology, through examining the processes by which organism and environment maintain themselves as well as bring forth new structures and meaning, this provides a complementary way for enactivism and phenomenology to inform each other.³⁹⁷

The main claim that emerges from the enactive approach is that “[m]eaning and experience are created by, or enacted through, the continuous reciprocal interaction of the brain, body, and the world.”³⁹⁸ These enactive principles can be used to: 1. Collapse the distinction between emotion and cognition (think of our critique of Solomon and the other cognitivists in chapter 7). For the enactivist, cognition is fundamentally a process of sense-making through adaptive coupling between the subject and the environment, a coupling which produces viability-maintaining activity in relation to what has valence – what attracts or repels, what is good or bad for – the subject. Affective states and processes are vital elements in such valence-sensitivity, meaning that cognition as sense-making is always affective. Cognition as problem solving presupposes affects (recall Panksepp’s primal affects). Cognition is filled with values. At their simplest these values might be primal evolutionary affects based on self survival. These shifts in primitive affects and bodily homeostasis later develop into higher level emotions. Our examination has shown that meaning arises in evolutionary physiological-reactions (i.e. homeostasis of the body and the primal affects from chapter 6), and from there can become more cognitive and sophisticated (chapter 7), but the back and forth coupling between subject and environment remains, even as new affective and cognitive structures and meaning are brought forth. 2. Affects are based in action (see chapter 6 and the primal emotions). 3. Our phenomenological experiences *are* affective (chapter 8). Affects and experience are inseparable. Our affective experiences are what makes our world meaningful, if we suffer from severe depression, then that affective state we are in alters all our experiences. Enactivism is the conceptual framework we can use to tie phenomenology in

³⁹⁷ Colombetti and Thompson. "The Feeling Body." 56.

³⁹⁸ Colombetti and Thompson. "The Feeling Body." *ibid.*

with the sciences (for example, the sciences that may deal with depression). That is, we've looked at a diverse amount of theories concerning affects; what we can see is that the way the pieces come together fits within an enactive framework. Affective, enactive, sensorimotor experience leads to the makeup of the PEMS.

We can further this discussion by looking at more of the details of Colombetti's enactive approach to affects. Drawing on the work of Susan Hurley, she wants to draw out the distinction between the personal and subpersonal aspects of experience.³⁹⁹ Whereas the personal level is one where we as the agents can be said to perceive, believe, desire and act for specific reasons, Colombetti argues that the subpersonal level is the physical mechanism from which the personal level is generated.⁴⁰⁰ According to her view, the subpersonal level is itself composed of overlapping systems and processes, and these are what action and perception depend on, and can be described (using Hurley's terminology) as 'constitutively interdependent.' What this means is that our actions and perceptions are not just related instrumentally as a kind of means to an end, instead, "action *constitutes* perception and...thus a kind of action."⁴⁰¹ These interactive and dynamical relations between the different subpersonal processes underlie the three main enactive ideas we looked at just a moment ago. It is these subpersonal and pre-reflective processes which create the phenomenological background of our experiences and make up the 'lived body.'⁴⁰² You might ask: 'what are these subsystems that are being referred to?' There are many: think of the mirror neuron system from chapter 2 (and Damasio's as-if body loops referred to in chapter 6), another subpersonal system includes the parts of the brain-body that deal with what Panksepp (also chapter 6) called the 'homeostasis of the body', and a third subpersonal system would be the contextual conditioning that LeDoux (chapter 6) spoke about that drew on processes in the amygdala and hippocampus. And of course there are other processes which we haven't had room to explore. These different subpersonal mechanisms we've examined are the prereflective, affective, corporeal arousal which the subject experiences as the background sense of self. Colombetti's enactive account of affective appraisals argues that "the appraising

³⁹⁹ We should note that these terms tie-in to a large degree with our discussion in chapter 3 with the look at Shaun Gallagher's distinction between the noetic personal body image, and the pre-noetic subpersonal body schema.

⁴⁰⁰ Note that Colombetti is using the term 'subpersonal' slightly differently than me; however, her overall point remains PEMS friendly in that we are both arguing for subpersonal, or pre-reflective processes creating our perceptions through action.

⁴⁰¹ Colombetti. "Enactive Appraisal." 530 (emphasis mine).

⁴⁰² The points that have just been made are quite important, and thus we will be dedicating chapter 10 in Part III to this topic, which will explore the details of these personal/subpersonal processes much more thoroughly.

experience is pre-reflectively lived as corporeal. The body condition that characterizes an emotion episode...is lived through in the very process of evaluating the meaning of one's environment."⁴⁰³ Our bodily processes are distributed across a vast network of processes across the brain and body. The 'constitutive interdependence' of these distributed networks of subpersonal systems and bodily processes is a key characteristic of the enactive approach to affects. Our affectively aroused body is something that is immediately available to our experience, it is also that *through* which we evaluate our world. Our experience of evaluating our environment is affective and corporeal.

Chapter 8 has taken our discussion of affects and connected it with the notion of phenomenological background experience, thus showing how phenomenology can operate as an over-arching framework which can assist us in understanding these affects (and the PEMS). Let us take one more look at what can be learned from this work. We have argued that the PEMS is based on corporeal-kinetics. The dynamic forms of vitality which make up this PEMS have as vital components corporeal-kinetic patterning and intentionality. Affects – which are action based – play a vital role in the establishment of minimal selfhood. Chapter 6 showed the action basis of affects (the primal affects compose the basic feelings behind the self), chapter 7 showed affects were the basis for higher-order thought, and chapter 8 furthered these ideas by showing that affects play a role as background feelings which function as the fabric from which reactions and thought are sewn together (how the world appears to the self and how the self responds). Matthew Ratcliffe has been our key figure in this. He argued that "all intentional states are structured by an experiential background and that this background always incorporates feeling."⁴⁰⁴ We can also see that both Stern's 'dynamic forms of vitality' and Sheets-Johnstone's 'kinaesthesia' and 'thinking in action' support this view.

Phenomenological accounts typically lay out well the importance of the first-personal *mineness* of experience, but they don't tell us what the mechanisms are that bring this about. Here in Part II we have found some of these mechanisms, and with the binding framework of enactivism, we can see how they all come together to support the PEMS. Affects are an essential element of minimal *ipseity*. Part I showed how animate movement was an essential part of *ipseity*, it demonstrated the importance of kinaesthesia – the felt sensation of bodily position. It also emphasized corporeal-kinetics – bodily movement as essential to *ipseity*. Part II has now shown that affects are also essentially connected with action (or action potential).

⁴⁰³ Colombetti. "Enactive Appraisal." 542-543.

⁴⁰⁴ Ratcliffe, Matthew. "The Feeling of Being." Emotion Experience Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 45.

Feelings of vitality – the dynamic forms of vitality that ground the minimal self (and include affects) – have an essential affective component.

Part II: Conclusion

“...all understanding is essentially related to an affective self-finding which belongs to understanding itself. To be affectively self-finding is the formal structure of what we call mood, passion, affect, and the like, which are constitutive for all comportment toward beings...we therefore call it the pre-ontological understanding of being.”⁴⁰⁵

The goal of Part II was to find and explore the important role that affects have for helping determine what our sense of self is. In chapter 6 we laid the foundation for our discussion by looking at the science behind affective experiences. Jaak Panksepp’s insights provided the evolutionary underpinnings of what function affects play. We saw that they (i) helped maintain homeostasis – or the chemical balance – of the body; (ii) they helped us deal with stimuli outside our body – the exteroceptive driven affects; and (iii) that emotional affects reflected an animal’s instinctual actions. From Panksepp we learned of the ‘state control functions’ which provided the sub-neocortical (non-cognitive) point of control at a motoric and action based level, and the ‘channel functions’ with which we could make use of higher-order cognitions to deal with emotional encounters.

We moved on to a specific human-oriented understanding of affects through David Rudrauf and Antonio Damasio’s discussion of an internal tension within the body of the biological organism. As internal states within our body, these changes can affect us either locally or on a larger scale (at both the level of state control functions and at the channel function level). An emotional reaction according to them is in part our way of dealing with different biomechanical forces at work.

We then looked at how affective processing works through Joseph LeDoux’s insights. He showed us the emotional structural process that the brain goes through when a stimulus is received. (i) Bodily responses are associated with internal changes to our body’s physiology; (ii) We next become aware of a feeling based on this; (iii) Some action then takes place. There is a type of ‘contextual conditioning’ that takes place. A truly fearful experience (such as a bear charging toward us in the woods), will cause part of our brain (the amygdala) to place the experience into our working or even explicit memory. This emotional reaction modulates the formation of our memories, and alters our way of perceiving and reacting to future instances

⁴⁰⁵ Martin Heidegger. The Basic Problems of Phenomenology. 281 (emphasis original).

of encounters which resemble it. We saw in this chapter, then, that affects actually coordinate and organize the activity of our brain. The way we react to the world changes over time as we encounter new (and reencounter old) experiences. For a child and young adult, the world is a large and mysterious place, yet as we grow older, the world becomes more familiar to us – we know better how to respond to different situations. This is due in large part to the emotional scaffolding which is laid down in our memories as we encounter new, exciting, and frightening situations.

Chapter 7 moved our discussion into more philosophical approaches, by focusing on what role does cognitive appraisal or judgment play in our emotional reactions and development. That is, the cognitive appraisal account argues that affects are like judgments or beliefs, rather than just physiological reactions. Robert Solomon thought we should focus not just on what happens in a matter of milliseconds, but how emotions play out and what they mean for us over a period of several minutes. At that level, he argued, we find that emotions are a type of judgment of the situation we find ourselves in. They in effect function with the intentional structure of belief, and they are rational. Since emotions were judgments, beliefs, and rational, this led him to conclude that although they frequently were pre-reflective, that nonetheless (i) there is a type of evaluation going on, for emotions many times embody our ethical judgments, responsibilities, and convictions; and (ii) they frequently comprise a chain or cluster of systematic judgments that are born out of a particular situation. However, in spite of all these thoughts, we saw that the contextual conditioning that LeDoux described, as well as Damasio's notion of an 'as-if body loop,' or 'simulated body states' (i.e. mirror neurons) could serve as explanations of the kind of features that Solomon takes to be important.

We continued on in this chapter by looking at hybrid approaches to affective experience. Richard Lazarus introduced us to the idea of 'core relational themes.' Lazarus thought that this was a good argument for a cognitive approach to affects, in that they can provide us with a coping strategy for different situations that begins at the most basic or general level and moves upward, toward something more specific. He envisioned this strategy as shaped like a tree (a 'decision tree'), where the most general reaction was the trunk, and more specific reactions would end up higher in the branches based on the motivational variables. However, we took this approach and gave it a shift towards the physically-oriented approach to affects. Where Lazarus could look at developing infants and argue that their emotional development was based on 'goal relevant' shifts, we saw – by reflecting back to chapter 1 when we looked at infant development – that the infant's development has a strong bodily, sensorimotor based focus.

We ended chapter 7 by looking at Jesse Prinz's take on the subject. Prinz introduced us to the idea of the 'formal' and 'particular' objects of an affect. If we were feeling sad because someone we knew had died, the particular object of this affective reaction would be sadness over the specific person, whereas the formal object would just be the sadness. This was an important distinction to be made, for it provided yet again a way for us to see how the specific could emerge from the general. Where Solomon seemed to focus on the particular object of emotion, we saw that it is the formal object which is the more important idea to focus on. It was also an important insight, because it arose in its own way via theorists of many different philosophical bents. LeDoux's idea of contextual conditioning argues for a general-to-specific approach. Damasio's argument for as-if body loops also emphasizes a general-to-specific approach. Lazarus's core relational themes present us with general themes which make up our affective core. And perhaps Prinz articulated this best by drawing a distinction between the formal and particular object of emotion. From all of these approaches one thing does stand out, and that is the bodily core of the affective experiences. It is the body where these first basic affective reactions emerge (from the homeostasis of the body to the exteroceptively driven affects – the five senses). Then expand to the (instinctual) dynamic actions that might result from an affective reaction. The alleged complex structure that Solomon thought emotions had, can perhaps best be viewed as overlapping core relational themes, or overlapping contexts which we have been conditioned for, that get honed down as the new situation plays itself out. Affects, rather than being structured representations, or propositionally meaningful components, are better seen (as Prinz pointed out in his adoption of the core relational themes of Lazarus) as detectors or indicators which take wide and broad experiences and branch them out to something specific.

Chapter 8 took us towards the final stage. Having established a scientific basis for affects in chapter 6, we then explored in chapter 7 the (philosophical and psychological) terms that could best describe what we know of affects and how they operate. With chapter 8 we could now shift our focus to how feelings about and perspectives on the world and reality are actually experienced and described by people in general, and to see how this can inform us from yet another perspective. Examination of 'existential feelings' and cases of severe depression and autistic spectrum disorder presented how a world of possibilities opens up to a person and how this frames and positions the self in the world at the minimal level. We then sought a unifying framework which could tie together all these approaches, and found it in phenomenology and enactivism. There is also another way to look at the progression of the last three chapters. Whereas in chapter 6 we looked at affects as they registered immediately

for us, and in chapter 7 we looked at how affects might operate at a time scale that lasted minutes, in chapter 8 we expanded further (temporally speaking) by looking at the feelings which form the foundation of our outlook of the world at a time frame of hours or days, and how we interpret reality and our place within it in this broader span of time. The key to this approach was to look at Matthew Ratcliffe's idea of 'existential feelings.' If we want to understand the self, knowing how feelings provide an opening out to the world, and understanding these background feelings which form the phenomenological atmosphere of the world which we inhabit and in which we dwell, will provide perhaps the most important pieces of that puzzle. Through a focused look at severe depression and a brief look at autistic spectrum disorder, we saw how a certain type of existential feeling can completely alter one's way of dwelling and interacting with the world (the phenomenological *feel* of our experience and existence and how the world opens up or closes in around us, altering our sense of self and how we understand and react to other selves). Finally, Giovanna Colombetti's enactive approach to affects provided us with a uniting principle which can bring together the insights of these lines of inquiry. Existential feelings provided us with the unique and important phenomenological ways that show us how the world reveals itself for us in its possibilities and can determine our sense of self-belonging (or self-alienation). Cognitive and physical-reaction approaches provided us with an informative look at the different aspects of affects, indeed, even some core origin points of where affective phenomena come from and why they arose, but the PEMS approach gathered together all this material and began to show us the way in which they might fit together. Previous approaches to the self have looked at the body or affects, but the PEMS approach has been showing how they both are intimately linked via corporeal-kinetics (through, for example primal affects such as 'seeking'), and how kinaesthesia and dynamic forms of vitality that emerge from the bodily affects (such as infant movement) create and maintain the unified PEMS through change in time and experience.

In the introduction to Part I it was stated that the body serves as the horizon to which we experience the world. We have now seen more of how this horizon of world experience emerges and comes together. The picture of the PEMS that is developing has a bodily basis as Part I showed, and now, with Part II, we have seen that moods, emotions and feelings add to this biologically, psychologically and phenomenologically to present a fuller picture. The minimal self has two vital and connected components – bodily kinaesthetic movement, and an affective element that provides us that sense of *mineness* (e.g. primal affects) and how we feel our belonging or alienation from the world (e.g. severe depression). What we need to do next

is to show how all of this comes together. We are now going to move on to Part III where the Phenomenological-Enactive Minimal Self will be tied together.

PART III: The Phenomenological-Enactive Minimal Self

Part III: Introduction

“Moving organisms indeed create kinetic melodies...by the very fact of their aliveness. These melodies are created because qualia are inherent in movement, inherent in the dynamically moving bodies of animate forms. They are the foundational kinetic units...”⁴⁰⁶

In the first two parts of this project we have looked at two things: the bodily aspects of the Phenomenological-Enactive Minimal Self (PEMS) and the affective aspects of the PEMS. These two parts focused on the two essential aspects of the PEMS – that it is based in the body and movement (corporeal-kinetics), and that a vital element which is part of this are the affects which show how the phenomenological element of first-personal *mineness* arises. The analysis showed how we not only *react* to the world we are embedded in (i.e. infant and caregiver, or the flow of emotions when encountering something), but how the world in fact *appears* to us and what it is like to-be-in-the-world (i.e. existential feelings of being). The purpose of this final part is to tie things together and see how the PEMS view relates to other similar views.

This final part will be broken up into two chapters. The purpose of the first (chapter 10) is to build up to the PEMS theory by drawing on ideas we covered in earlier chapters, and tying them together with some new unifying themes by looking at two theories of consciousness. Chapter 10 will look at the distinction that has been frequently made between the noetic and the prenoetic, the reflective and the prereflective, and see what theory can best explain this distinction which we have continually encountered. The first step in this endeavour will be to look at the ‘dual process’ theory of consciousness. Dual process theories serve as a good stepping off point to the issue which I want to take up regarding pre-reflective and reflective thought by presenting two separate systems which interact together. This will lead to the second step of ‘nested neural hierarchies.’ Here we will see how the nested neural hierarchy can take the dual process theory of consciousness and expand it to fit in with the discoveries found in neuroscience and sensorimotor movement, it also moves us from

⁴⁰⁶ Sheets-Johnstone, Maxine. The Corporeal Turn: An Interdisciplinary Reader. (UK: Imprint Academic, 2009), 61.

separate systems into nested systems that mutually interact. Chapter 10 will – through its stepwise approach through each of these two theories of consciousness – give us an entry point into how a unified minimal self might come about and what it comprises. This exploration of different systems or hierarchies of the brain is important for our theory of the PEMS for the following reason: our perceptions appear to us under normal circumstances as a unified experience (i.e. we typically don't just smell a flower, or see a flower, or hear a bee buzzing near it, we perceive all these things at once), yet if we have different, separate systems, levels, or processes at work, then how can we account for this perceptual unity? We also possess mental unity: under normal circumstances we understand ourselves to be (roughly) the same person now as we were minutes, hours, days, weeks, months, years, or even decades before. How can we account for this self-unity – or sense of self – based on brain structure? What is the relationship between different brain systems which can help account for and explain this? Throughout this project we've encountered the problem of how the pre-reflective element of consciousness (the corporeal-kinetic patterning) relates to the reflective (corporeal-kinetic intentionality). Chapter 10 will allow us to delve deeper into this area and seek a resolution through a progression of separate systems (a quick, evolutionarily basic system 1, and a slower and more cognitively attentive system 2) to unified and more integrative nested hierarchies for the PEMS theory.

Once we have covered this, we will be ready to spell out the specifics of a PEMS theory in chapter 11, the final chapter. The work on consciousness, corporeal-kinetics and affects will all come together in a way to show that there is a minimal self that each of us has. The final chapter will look at some alternative views of self. The alternative theories which we will examine will be (i) the 'centre of narrative gravity' view of Daniel Dennett; (ii) the 'no-self' theory which is argued for by Thomas Metzinger; (iii) an alternative enactivist view of self that has been argued for by Francisco Varela and Evan Thompson; and (iv) Evan Thompson's later expansion of the view he created with Varela. By drawing together what we've looked at in the previous 10 chapters, I will (i) point out some conceptual confusions with Dennett's 'centre of narrative gravity' view; (ii) present problems that arise with the 'no-self' view; (iii) show some problems with Varela's enactivist view; and (iv) argue that the view Thompson has taken has some compatible ideas with my own PEMS theory. The PEMS theory will demonstrate by the end that although the body and environment is constantly changing, there is still something 'there' which we can refer to as a unified minimal self.

Chapter 10: Dual-Process, Nested Neural Hierarchy and an Enactive approach to Consciousness

“Something inside knows and thinks [...] The something is oneself. A person needs a self in order to think. At the same time, a person needs to think if she is to acquire a developed sense of self.”⁴⁰⁷

Introduction

In our exploration of the body and affects in the previous nine chapters, we frequently encountered two types of processes: those which could be labelled pre-reflective, and those that were reflective. Since we are trying to understand what the Phenomenological-Enactive Minimal Self (PEMS) is, we will need to get a better grasp of what might explain these processes and how they relate to one another, so as to acquire greater clarity on pre-reflective minimal elements of *ipseity* and reflective narrative *ipseity*. As such, the purpose of this chapter will be to explore these ideas in much richer detail. To do so we will look at three different views (explanations to follow): (i) dual-process theory (in two variations); (ii) the nested neural hierarchy view; and (iii) an enactive approach. Moving from dual-process theories, through the nested neural hierarchy view (which will give us a greater understanding of the unity of consciousness that gives rise to the sense of *mineness*), to enactivism, will lead us to a resolution of how to understand the relationship of the reflective and prereflective aspects of experience.

We will begin with a view which would seem to fit this divide we’ve encountered quite well: the ‘dual-process’ theory. This ‘two minds’ view was initially developed by a variety of psychological researchers in the 1970’s engaged in the study of areas such as: deductive reasoning, decision making, and social judgments. “These theories [came] in different forms, but all agree[d] in positing two distinct mechanisms for a given task, which employ different procedures.”⁴⁰⁸ The theory argues that the thought processes which we possess are driven by two mechanisms. One of these lies below our conscious awareness and is fast and automatic, the other is one which we are consciously aware of, and is slower in its operation. It is thought

⁴⁰⁷ Hobson, Peter. The Cradle of Thought: Exploring the Origins of Thinking. (UK: Pan Books, 2002), 206-207.

⁴⁰⁸ Evans, Jonathan, Keith Frankish. “The Duality of Mind: An Historical Perspective.” In Two Minds: Dual Processes and Beyond. Eds. Evans, Jonathan St. B. T., Keith Frankish. (UK: Oxford, 2009), 1.

within this theory that the slow and conscious mechanism sometimes may operate independently and occasionally fight for behavioural control with the fast and automatic mechanisms.⁴⁰⁹ This is a theory which has existed within brain sciences for over 30 years. We will examine two versions of this view, that of Peter Carruthers and that of Keith Frankish. What Carruthers and Frankish do for us with their accounts of these two systems is get us one step closer to answering questions of interaction and assembly with these two mechanisms. The dual-process approach naturally links into the general story of how the minimal and narrative selves relate by their examination of how the consciously aware and consciously unaware are split. We should note that the terminology that Carruthers and Frankish use frequently states that system 1 is ‘unconscious’ and system 2 is ‘conscious.’ One might think that this distinction doesn’t map happily onto my distinction between the ‘pre-reflective’ and ‘reflective,’ since for me there are prereflective states of awareness. However, Jonathan Evans – who with Carruthers and Frankish has contributed to and developed the dual process theory – notes some of the terminological difficulties in the area and offers the following clarification: the notion of *preattentive* processes “[is accurate as a description for system 1], because it refers to processes that precede and provide content for focal attention.” Likewise, “*analytic* processes are those which manipulate explicit representations through...and exert conscious volitional control on behaviour,” and serve as a good description of system 2.⁴¹⁰ From this we see that Evans’ use of the term ‘preattentive’ reflects my use of the term ‘prereflective,’ while his use of ‘analytic’ is similar to my use of ‘reflective.’ Thus, the system 1 category can and has been interpreted so as to include prereflective (preattentive) states of awareness.

However, as we will see, the dual-process theory of consciousness does not mesh quite as well with an enactive approach to understanding our embodiment within the world, which is what we are arguing for. Thus, we will use the dual process theory as the stepping stone onto the nested hierarchy and then the enactivist view, which will move us toward our goal of what theory of consciousness best fits a PEMS theory.

The second stage of this chapter will be to present the ‘nested neural hierarchy’ theory of consciousness which has been argued for by the neurologist Todd Feinberg. The nested neural hierarchy theory argues that three anatomical systems produce what we consider the self. These three systems dynamically interact and modulate each other in a much more

⁴⁰⁹ Evans, Jonathan, Keith Frankish. “Preface.” In Two Minds: Dual Processes and Beyond. Eds. Evans, Jonathan St. B. T., Keith Frankish. (UK: Oxford, 2009), v.

⁴¹⁰ Evans, Jonathan. “How Many Dual-process Theories do we Need? One, Two, or Many?” In Two Minds: Dual Processes and Beyond. Eds. Evans, Jonathan St. B. T., Keith Frankish. (UK: Oxford, 2009), 42 (emphasis original).

holistic – or unified – way that moves us toward the goal of an enactive paradigm. The three systems are (i) the interoself, which is hierarchically lowest and earliest when it comes to evolutionary development; (ii) the exterosensorimotor system that deals with our sensorimotor reaction to the environment; and (iii) the integrative self system that assimilates and mediates the other two systems.⁴¹¹ We will see with this theory how interaction between different anatomical parts of the brain can produce a unified self which incorporates the reflective/pre-reflective aspects of the self, as well as taking into account our animate and sensorimotor interaction within the lived world.

The chapter will end by bringing in the enactivist view of the lived body as put forth by Giovanna Colombetti and others. Although this approach was looked at briefly at the end of part two when we were completing our look at affects, here it will be seen how enactivism as applied to affects fits within a nested neural hierarchy account of the brain. Chapter 10 will end by laying out some of the steps in understanding the PEMS theory, by providing us a baseline, grounded theory of consciousness that creates a unified self, and let us see the beginnings of what enactivism entails and gives us in understanding the PEMS.

The Dual Process Theory of Consciousness

Let us begin our analysis of the dual process theory of consciousness by first bringing in the perspective of Peter Carruthers. Carruthers develops this dual process account from the perspective of analytic philosophy of mind by drawing on ideas of ‘computation’ and ‘modules’ within the brain. This will provide us a good jumping off point for our move into the variation given by Keith Frankish, which will tie-in closer with the work we’ve been doing and give us a clearer idea of where these ideas fit in relation to each other in the broader picture.

First of all, dual process theories state that there are two relatively distinct reasoning processes that are realized in our brain, which we will call ‘System 1’ and ‘System 2’.⁴¹² Peter Carruthers’ take on this is to argue that System 2 is realized within the operation cycles of System 1. Let us take a close look at what these two systems are:

⁴¹¹ Feinberg, Todd E.. “The Nested Neural Hierarchy and the Self.” (Consciousness and Cognition, 20, 2011) 5, 9.

⁴¹² Theorists in this area do differ as to the specifics of this claim, with, for example, some arguing that the two processes may not be distinct, or that we may have to allow more than two processes – such as a third that can serve as translator between the other two systems. For our purposes, however, we only need to be aware of two of these views: that of Peter Carruthers, and that of Keith Frankish. For more on this subject, see: Evans, Jonathan St. B. T., Keith Frankish (Eds). In Two Minds: Dual Processes and Beyond. (UK: Oxford, 2009).

Table 1: The properties of System 1 and 2.⁴¹³

<u>System 1</u>	<u>System 2</u>
A set of systems	A single system
Fast	Slow
Parallel	Serial
Unconscious	Conscious
Not easily altered	Malleable
Universal in Humans	Variable based on cultures and the individual
Mostly shared with other Animals	Uniquely Human
Not influenced by Verbal Instruction	Responsive to Verbal Instruction
Independent of Normative Beliefs	Influenced by Normative Beliefs
Heuristic based	Can involve applications of valid rules

Carruthers' understands these properties as follows. System 1 is an evolutionarily ancient system formed by "a collection of semi-independent modules whose internal processes are...computational in nature."⁴¹⁴ He says this system has three distinct kinds of 'mechanisms' associated with it: the architecture we associate with our beliefs, desires, and decision making. By contrast, System 2 is a single, uniquely human system, which according to Carruthers, can operate in different 'modes' that correspond to the three mechanisms just mentioned.⁴¹⁵

The evolutionarily ancient aspects of System 1, Carruthers thinks, were initially for the purposes of both controlling our movements and for anticipating their effects.⁴¹⁶ Moreover, "these systems are ideally suited to subserve the mental *rehearsal* of action."⁴¹⁷ An example of how System 1 would activate some form of action control would look as follows:

⁴¹³ Carruthers, Peter. "An Architecture for Dual Reasoning." In Two Minds: Dual Processes and Beyond. Eds. Evans, Jonathan St. B. T., Keith Frankish. (UK: Oxford, 2009), 109 (this table is adapted from Table 5.1). When it comes to the use of terms like 'unconscious' and 'conscious' although they don't map perfectly onto the prereflective/reflective distinction (as was mentioned just above), there are preattentive (or we might say prereflective) processes going on in system 1, and in system 2 we are dealing with beliefs and other concepts which are reflective in form.

⁴¹⁴ Carruthers. "An Architecture for Dual Reasoning." 110.

⁴¹⁵ Carruthers. "An Architecture for Dual Reasoning." *ibid.*

⁴¹⁶ Recall that in our initial look at the scientific foundation for affects in chapter 6 we saw that Jaak Panksepp had a similar distinction in play. We'll revisit and explore this in more depth later on.

⁴¹⁷ Carruthers. "An Architecture for Dual Reasoning." 113 (emphasis original)

[A]n activated motor schema issues motor commands to the muscles to initiate a movement, an 'efferent copy' of those commands is created and compared with the initial motor intention, thus allowing for swift self-correction before the movement itself has even begun. But the efferent copy is also transformed via one or more 'emulator systems' that model the kinematics of the body so as to match the incoming proprioceptive and other perceptual representations of the action as it is executed, again allowing for fast on-line correction.⁴¹⁸

This example suggests that to perform an action (such as running across a field to catch a frisbee) there are a variety of components: we have an original motor intention when we take that first step in our journey across the field in pursuit of the frisbee. Efferent copies are then created and compared to the original motor intention step. A series of 'semi-independent modules' – such as the emulator systems – model the body kinematics as the body makes the adjustment for taking that first step, maintaining posture, and avoiding any obstacles. And representations are brought in by perception and proprioception. All of these coordinate and contribute to the motor act of that first step.

How are all these different modules able to communicate with each other? Carruthers argues on behalf of what he calls 'global broadcasting theory' initially proposed by neuroscientist Bernard Baars (who calls it the 'global workspace theory'). Baars says:

"Global workspace theory is based on the belief that, like the cells of the human body, the detailed workings of the brain are widely distributed. There is no centralized command that tells neurons what to do...the adaptive networks of the brain are controlled by their own aims and contexts."⁴¹⁹

This theory is saying that much of the workings of the brain are performed unconsciously by small portions of specialized brain tissue. The various parts of the brain comprise assemblies of brain cells, and these are to be found in various clusters and networks. All of these networks have their own specific functions (based on encoded DNA instructions). The brain has a *distributed* type of functioning. There is no single command centre to be found, instead all the decision making is made up of a great many (millions) of these distributed systems functioning together to produce global coordination and control without detailed instructions from some type of 'command centre'. Consciousness, then, according to the global

⁴¹⁸ Carruthers. "An Architecture for Dual Reasoning." 112.

⁴¹⁹ Baars, Bernard. In the Theater of Consciousness: The Workspace of the Mind. (UK: Oxford University Press, 1997), ix.

workspace/broadcasting theory, is a facility for “*accessing, disseminating, and exchanging information, and for exercising global coordination and control.*”⁴²⁰

The global broadcast theory of consciousness also applies to mentally rehearsed actions, some of which can lead to new desires or emotions. That is, by mentally rehearsing an action, you *suppose* that you are performing a certain act, thus triggering a globally broadcast response to the situation. Sometimes what you suppose you may not actually believe outright (such as trying to work out if you would be able to get to a certain cafe before it closes to eat a particular piece of chocolate cake you desire). Thus, Carruthers thinks that although we don’t *necessarily* get real beliefs from actions which we mentally rehearse, these images *can* give rise to actual emotions and motivations which come from that image.⁴²¹ So, you might imagine eating your favourite Thai meal at your favourite restaurant, and this image in your mind succeeds in making you hungry. Or, you can visualize a sexual act, and this imagery can put you in a state of arousal. However, as we argued in part II (chapters 6-9), the functional role of emotions that we personally rehearse in our mind (e.g. getting angry at hearing about an act of corruption committed by a well known politician) are of a different kind from those which are spawned spontaneously from the environment without rehearsal (visiting the woods for the first time and encountering a charging bear).

There are several ideas to take from this brief summary of Carruthers’ version of dual process theory:

“Since System 2 is realized in the *cycles* of System 1 [as it operates] it will be slow in comparison. And since only one action can be mentally rehearsed and globally broadcast at a time, System 2 will be serial in its operation (but utilizing the parallel-process functioning of System 1). And since the images that result from mental rehearsal of each action in the cycle are globally broadcast and we know that such broadcasts correlate closely with consciousness, we can explain why each such stage in each cycle should be conscious. (The other stages, by contrast, will be *unconscious*, including the processes that select a given action-schema for rehearsal, and those that draw inferences from, or generate emotional reactions to, the broadcast image).”⁴²²

⁴²⁰ Baars. *In the Theater of Consciousness*. 6-7 (emphasis original).

⁴²¹ Carruthers. “An Architecture for Dual Reasoning.” 115.

⁴²² Carruthers. “An Architecture for Dual Reasoning.” 120 (emphasis original).

We should also keep in mind that System 2 is action-based, in the following sense. “[I]t is mentally rehearsed actions that initiate and sustain System 2 reasoning, thereby recruiting and utilizing the mechanisms that also subserve System 1 reasoning.”⁴²³ In the next part of our look at dual process theories of consciousness, we will see how Keith Frankish argues how dual process theory explains personal and subpersonal levels. His approach to dual process theory, with its subtle shift in emphasis and terminology, will take us a step closer on our path to acquiring a PEMS-friendly understanding of consciousness.

Frankish wants to take the idea of System 1 and 2 and explore them more as *levels* rather than as *systems*, and this takes place as the subpersonal and personal level distinction (i.e. our prenoetic/noetic distinction, the pre-reflective/reflective distinction, or the distinction between CKP vs. CKI). Frankish says that the diverse System 1 is a set of cooperative subsystems that are subpersonal in their processes; and that System 2 is the personal system. The personal level processes we have are, according to him, realized in – or emerge from – the subpersonal ones. These processes interact to give us our way of looking at how subpersonal/personal ‘reasoning’ operates. There are two types to this reasoning: Personal reasoning is that done by a person, whereas subpersonal reasoning is performed by neural subsystems. A “defining feature of personal reasoning is that it constitutively involves the performance of one or more intentional actions that are designed to generate a solution to a problem and motivated by a desire to find it.”⁴²⁴ This requires the use of different metacognitive abilities, such as attentively monitoring our activities, focusing our attention on a certain task, or evaluating different strategies which we might make use of; it is therefore conscious. Although this personal reasoning is conscious, the beliefs and desires which we have that provide the underlying motivation for it may themselves not be conscious. So, for example, someone presents us with a maths problem: ‘What is 5 x 4?’ We respond quickly with the answer ‘20.’ When asked how we worked it out, we might very well respond that we don’t know. In this case the answer just ‘came to us’ – answering the question was an intentional act by us, yet the reasoning that led up to us giving the answer was a type of subpersonal reasoning. If, however, we are given a more difficult maths problem (e.g. 245 divided by 7), then we may have to engage in a personal reasoning level process to arrive at the answer. This methodology involves a type of ‘self-interrogation’ – we present ourselves with a problem, and then try to come up with a way to resolve it. Self-interrogation is an

⁴²³ Carruthers. “An Architecture for Dual Reasoning.” 122.

⁴²⁴ Frankish, Keith. “Systems and Levels: Dual-system theories and the personal – subpersonal distinction.” *In Two Minds: Dual Processes and Beyond*. Eds. Evans, Jonathan St. B. T., Keith Frankish. (UK: Oxford, 2009), 92.

intentional action that is a process of personal reasoning, yet all the major work is done at the subpersonal level (recall back to the case of Ian Waterman in chapter 3 and how the CKI has great difficulty operating if a CKP isn't in place to provide it with a framework). In self-interrogation, there may be an articulation of a problem and a deliberate attempt to resolve it, yet this self-interrogation 'thinking' is something which is done subpersonally. Consider again the mental rehearsal of an action. The rehearsal "generates perceptual and proprioceptive feedback which is then globally broadcast to subpersonal inferential and motivational subsystems, producing cognitive, motivational, and emotional reactions similar to those the action itself would produce."⁴²⁵ This improves the problem-solving abilities of the creature. We can see, then, that there is a relationship between the subpersonal and personal levels (System 1 and 2), but what are some of the specifics?

The dual-process theory argues for a foundation based on the evolutionarily basic neural subsystems of System 1, and System 2 is either a 'higher-order' of mental mechanisms or modules operating at a slower and more conscious way from what the quick and unconscious subpersonal systems do out of our reflective awareness. A question we might ask at this point is: what is the structural makeup of these systems? System 1 is supposedly an evolutionarily ancient system, and System 2 is more recent and uniquely human, so how are these structured? Frankish says, "[p]erhaps it is not the *components* of the system [2] that are recent, but their *assembly*."⁴²⁶ Resources for personal reasoning (such as working memory, language, sensory imagination, etc) may have evolved independently and personal reasoning appeared only when these resources merged to complete a new task. The question arises since we have understood that System 1 is supposed to be the older, more evolutionarily basic system that we may have in common with other animals, and System 2 is something recent and distinctly human, so we need to ask whether the new System 2 "evolved independently, and that personal reasoning emerged only when these disparate resources were co-opted to serve a new task, perhaps with some minor additional adaptations."⁴²⁷ For example, a view which emphasizes the 'assembly' view is that of archaeologist Steven Mithen who, by drawing on ideas from evolutionary psychology, has argued that humans in their early primate evolution had several different mental modules within the brain that served their own specific, specialized, purposes (e.g. modules for linguistic intelligence, social intelligence, technical intelligence, and general intelligence), but that over evolutionary time the modules began to

⁴²⁵ Frankish. "Systems and Levels." 95.

⁴²⁶ Frankish. "Systems and Levels." 99 (emphasis original).

⁴²⁷ Frankish. "Systems and Levels." Ibid.

overlap and eventually opened up to each other, thus providing us with entirely new ways of thinking and performing actions.⁴²⁸

The question of how the systems interact and how many systems/levels there are has taken up much discussion.⁴²⁹ A question that arises is whether two systems is the best way to understand how conscious processes operate. Frankish considers two modified versions. The first modified view – that of Jonathan Evans – is to introduce a type 3 process into the mix, which serves to initiate System 2 processing and resolve any conflicts that may arise from it. A second modification is that of Keith Stanovich, who accepts the two system layout we’ve looked at, however, he breaks System 2 down into two subcategories – the ‘reflective,’ which is our top level of goals and beliefs, and a subordinate ‘algorithmic’ level which is the mechanical processes which support the reflective states.⁴³⁰ Following on from this, Carruthers and Frankish haven’t properly appreciated the pre-reflective. As we’ve seen (e.g. in footnotes 412 and 413) they – as well as Jonathan Evans and Keith Stanovich – are aware that the system 1/system 2 designation is perhaps too rigid to encompass the variety of processes which are at work. So what we need to do next is address these concerns by seeing what alternatives exist.

Let us see how these questions lead us into the next section to seek further clarity. We are confused as to how System 2 structurally relates to System 1. We also see that although initially a two system approach seems to work, there is still the nagging question (which can be traced to chapter 3) of how they interact – do we need more systems or processes, or do we need subcategories within these systems? The problem here can best be described as a problem with the multi-level or hierarchical view of consciousness, where different levels are relying or building on others. The dual-process theory showed how System 2 can assert some control or restraint over System 1, it provided a first look at how these two seemingly different systems can interact and influence each other. However, we can build on – and look deeper into – this relationship by introducing a new idea into our discussion: the nested neural hierarchy.

⁴²⁸ Mithen, Steven. The Prehistory of the Mind: The Cognitive Origins of Art, Religion and Science. (UK: Thames and Hudson, 1996), 64.

⁴²⁹ See notes 412 and 413 above.

⁴³⁰ Frankish. “Systems and Levels.” 101.

The Nested Neural Hierarchy Theory of Consciousness

The dual-process theory we've just looked at – especially with how Carruthers envisioned it – involved two systems modelled on the idea of different interacting systems, with System 1 having its own semi-independent subsystems, and System 2 – although it is realized in the cycles and processes of System 1 – viewed as a uniquely human-system. Frankish also follows along this line (although he emphasizes the greater importance of System 1) and prefers to call the systems 'levels.' Dual-process theory also lacks a full appreciation of the pre-reflective/reflective difference as well as the enactive approach to understanding ourselves as unified embodied selves within the world. We can acquire a better grasp of how the idea of mental unity arises by bringing in the nested neural hierarchy theory of neurologist Todd Feinberg. Feinberg explores the mind-brain relationship by introducing two ways of looking at it: the 'non-nested neural hierarchy,' and the 'nested neural hierarchy.' According to Feinberg, non-nested neural hierarchies possess higher and lower levels that are physically independent systems, where the higher levels of the hierarchy are not physically composed of what is on the bottom.⁴³¹ If we want to know how we can understand and view the unity of action and unity of self which we experience, then a better model to draw upon is that of a 'nested neural hierarchy.' Instead of a pyramidal structure with a series of bottom structures which lead us to an ever smaller series of structures that reach toward the pinnacle system at the top, what makes more sense is to see how all the components which make up the lower levels as physically combined (or nested) within the higher levels in a way that creates increasingly complex wholes.⁴³² The nested neural hierarchy we are about to examine will take us in the right direction towards enactivism.

Let us consider this in more detail. Here are the two main differences between a non-nested neural hierarchy and a nested-neural hierarchy when it comes to the relationship between higher and lower levels:

Non-nested Hierarchy: (i) the lower and higher levels are physically independent; and (ii) the higher – or top – level imposes control on the lower levels from on top. This results in a much stronger constraint of the higher upon the lower levels (top-down constraint). We can metaphorically view this in military terms. Think of a general: he directs and controls the operations of his army, yet he is not physically

⁴³¹ Feinberg, Todd E., J.P. Keenan. "Where in the Brain is the Self?" (Consciousness and Cognition. Vol. 14 (4), December 2005) 663.

⁴³² Feinberg, Todd E.. "The Nested Hierarchy of Consciousness: A Neurobiological Solution to the Problem of Mental Unity." (Neurocase. Vol. 6, 2000), 79.

composed of the lieutenants ranking below him. We can think of this as a controlled hierarchy.⁴³³

Nested Hierarchy: (i) just like an organism, the components of the lower levels are physically combined *within* the higher levels. This creates wholes which are increasingly complex. (ii) “the constraint of the system is embodied within the entire hierarchical system.”⁴³⁴ That is to say, there is no central controller running things for the system, instead “the constraint of the organism’s operation is generated from within the entire nested system of the organism.”⁴³⁵ This can also be known as a compositional hierarchy. If we think of the body, there is not a ‘general’ directing things; instead the body is comprised of constituent organs, which are then made up of constituent cells.⁴³⁶

What does this nested neural hierarchy look like? The nested neural hierarchy as Feinberg envisions it is composed of three interlocking systems. The three systems should be viewed as encompassing three concentric circles. At the centre of this circle is the ‘interoself system.’ Anatomically this would be part of the evolutionarily earliest part of the brain – the brain stem. This area is responsible for regulating the homeostatic bodily systems of the animal organism – those behaviours associated with self-protection, instinctual responses, and ‘interoceptive’ stimuli such as pain, hunger and thirst. Another way of understanding this system is to view it as maintaining the internal milieu of the organism: “the internal physiological balance of the body, such as temperature, metabolism, and oxygenation, and also with what is commonly know[n] as the limbic system, which regulates among other things emotions, motivation, and memory.”⁴³⁷ It generates the feelings which come from inside the organism itself, and which are vital to the establishment and maintenance of Self.⁴³⁸ Some of this should ring familiar, since much of what we looked at in chapter 6 regarding Jaak Panksepp’s ideas are based in this

⁴³³ Feinberg. “The Nested Hierarchy of Consciousness.” 78. Feinberg, Todd. From Axons to Identity: Neurological Explorations of the Nature of the Self. (NY: Norton, 2009), 167.

⁴³⁴ Feinberg. “The Nested Hierarchy of Consciousness.” 78-79.

⁴³⁵ Feinberg. “The Nested Hierarchy of Consciousness.” 79.

⁴³⁶ Feinberg. From Axons to Identity. 168. It should be pointed out that earlier when we were examining global broadcasting theory we said that “there is no single command centre to be found, instead all the decision making is made up of a great many (millions) of these distributed systems functioning together to produce global coordination and control without detailed instructions from some type of ‘command centre’.” This would seem to indicate that Carruthers’s view would be compatible – or could even be – a nested hierarchy. What this new framework should demonstrate, is that it is much better for getting a grasp of the idea of global broadcasting as well other issues we’ve raised (i.e. moving towards an enactive account).

⁴³⁷ Feinberg. From Axons to Identity. 135.

⁴³⁸ Feinberg. “The Nested Neural Hierarchy and the Self.” 5, 10.

most primitive part of our brain. Moving out from the inner circle we come to the second aspect of the nested neural hierarchy – the ‘exterosensorimotor system.’ This area – as the name implies – deals with how we respond to stimuli from the external environment. This deals with the “mental externalization [i.e. the mental projection of sensations into the external environment that are characteristic of the distance receptors such as vision and audition] of stimuli away from the body that makes self-object discrimination possible, a quality of mind that is critical for the creation of consciousness,” and of a self-other understanding.⁴³⁹ Finally we end up with the ‘integrative self system,’ which lies at the outermost circle in the nested hierarchy. This system’s job is to assimilate the previous two systems and serves to mediate the internal needs of the organism with that of the external environment. It could be viewed as a ‘convergence zone’ for where these other areas come together and integrate. It is also where abstract aspects of our sense of self emerge.⁴⁴⁰ This relates to self referential, or “self-related functions” [such as] “judgments about self-traits, autobiographical memory, self-face recognition, and self-agency.”⁴⁴¹ The key to understanding the differences between these three systems is to look more closely at what being ‘nested’ implies, and by looking at how the three parts of the nested hierarchy communicate with each other.

The brain sciences seem to have shown us that there is no one particular part of the brain where the different elements of our consciousness comes together (this is typically referred to as the ‘binding problem’).⁴⁴² So how does one explain the unified mind given its unbroken elements? Feinberg thinks the nested neural hierarchy shows how the brain functions like all other biological systems – the entire nested system functions interdependently to create conscious experience. The second circle (the exterosensorimotor system) puts *constraints* on the inner system (the interosef system), and the furthest out system (the integrative system) constrains the other two within it. How would this look in practice? Feinberg considers John Hughlings Jackson’s model of the nervous system as an example. Our nervous system evolved from much simpler and involuntary reflexes in the lowest part of the hierarchical system all the way outward to the specialized, voluntary, and highest cortical regions of the brain. Considering motor neurons on this view, Feinberg says: “[T]he action neurons at these lower levels of the hierarchy are nested within the higher levels of the hierarchy and the purpose of the act provides the constraint of higher levels upon lower

⁴³⁹ Feinberg. *From Axons to Identity*. 150, 139

⁴⁴⁰ Feinberg. “The Nested Neural Hierarchy and the Self.” 9, 10.

⁴⁴¹ Feinberg. *From Axons to Identity*. 153.

⁴⁴² Feinberg. “The Nested Hierarchy of Consciousness.” 77.

levels of the motor hierarchy.”⁴⁴³ This can help explain why we do not experience multiple conscious experiences coming from different brain regions, and instead experience our actions as unified – because the hierarchies are nested within each other. Do we understand how the communication across the hierarchies occurs? This is an area in which work is still being done and we do not as of yet have a definitive answer, however, Feinberg puts forth the following as a possible explanation. Drawing on the views of such people as Christof Koch, Francis Crick, and Gerald Edelman, Feinberg says the mental unification that seems to bind our perceptions might occur via synchronized oscillations of firing neurons. That is, the temporal synchronous pattern of the firing neurons throughout the different hierarchical regions would act as the constraint that necessarily binds and structures the different hierarchical arrangements in our consciousness. “Thus, a combination of convergent pathways and higher level temporal oscillation could provide sufficient integration of neural activity to enable the binding across and within hierarchical levels.”⁴⁴⁴ By analyzing the parts of the nervous system involved in unifying consciousness and self, we can see several supportive biological features. Compared to the lower levels, at the highest levels there are integrated abstract patterns where the neural activity is centralized. This at first seems to resemble a *non-nested hierarchy*, in that we seem to see a centralization of neural activity to create the integrated abstract patterns. However, these lower levels are still contributing to our conscious experience, and they are still represented within our total awareness (through the synchronized oscillations that operate across all the hierarchical levels. This, then, shifts its resemblance to a *nested hierarchy*. The nested integration amongst the levels may arise from the synchronized oscillations (mentioned above), which can bridge communication across the different hierarchical levels. When it comes to the nested neural hierarchy, “it appears that *all conscious things have this structure and function, all things with this structure/function possess consciousness, and no things without this structure are conscious*. Thus this feature may be necessary and perhaps sufficient for the creation of consciousness and the self.”⁴⁴⁵

Do we need to go any further? Have we found a theory of consciousness that accommodates what we’ve looked at? It moves us one more step closer. Yet this approach is not perfect because it still keeps everything broken apart into different components and there is a question of how they all fit together into an assembly. Our experience – under normal circumstances – is unified. The nested neural hierarchy tries to overcome this deficit by nesting structures within each other; and rather than have the components assembled in

⁴⁴³ Feinberg. “The Nested Hierarchy of Consciousness.” 80.

⁴⁴⁴ Feinberg. “The Nested Neural Hierarchy and the Self.” 13.

⁴⁴⁵ Feinberg. “The Nested Neural Hierarchy and the Self.” 13 (emphasis original).

piecemeal structures, the nested hierarchy pulls things together in a way that more closely resembles the unity we find within biological organisms that possess a similar anatomical make-up. But there is still more to say. We are looking for a theory which encompasses mind, body, and world, in a way which can explain how a unified sense of self emerges; so the final section of this chapter will bring in the enactive approach to show how this can accommodate the neural nested hierarchy view, yet also provide a bridge which we can cross that can lead us into new and more expansive territory.

Enactivism and Consciousness

In the final chapter of part II (chapter 9), the enactive approach of Giovanna Colombetti and Evan Thompson was brought in to help us understand how affects work. For this section we will return to – and expand – that discussion to see how it can fit within a larger picture of consciousness.

Let us look at five key areas of the enactive approach, so that we can see what it emphasizes:

1. Living entities are autonomous agents which can actively generate and maintain their own identities. Because of this they can ‘enact’ or create their own cognitive domains. There is not some purely pre-existing information that sits in the environment that is taken in and processed in a passive way – we do not have a purely separate domain of an ‘inner’ and ‘outer.’ Meaning is brought forth through the continuous process of the living entity being coupled with the environment.
2. The information in our nervous system does not pass through a specific sequence of steps that follow a particular process which you find in a strict hierarchical system – information is not processed in a computational sense. Instead, the nervous system needs to be viewed as a system capable of actively generating and maintaining its own meaningful patterns of activity. This meaningful activity operates in a circular fashion as networks of sensorimotor neurons interact together.
3. Cognition should be viewed as a type of embodied action. The sensorimotor coupling that exists between an “organism and its environment modulates, but does not determine, the patterns of neural activity,” and the neural activity in turn

informs the sensorimotor coupling. We are dealing with a self-organized system that creates its own meaning.

4. The world of the cognitive being “is not a prespecified, external realm, represented internally by its brain, but a relational domain enacted or brought forth by that being’s autonomous agency and mode of coupling with the environment.” This links to phenomenological insights that say there is a constitutive relationship between cognition and its object. Put another way, the world of the cognitive being “is conditioned by that being’s form or structure.” This type of ‘constitution’ is not something apparent to us in our everyday life, but requires a scientific and phenomenological investigation to reveal.
5. Experience is of central importance to any understanding we are to have of the mind. This requires that insights from cognitive science and phenomenology are both drawn upon in a complementary fashion and used to inform each other. “[E]xperience is not an epiphenomenal side issue, but central to any understanding of the mind” and the self.⁴⁴⁶

Giovanna Colombetti and Evan Thompson summarize these ideas as follows:

“[A]ccording to the enactive approach, the human mind is embodied in our entire organism and embedded in the world, and hence is not reducible to structures inside the head. Meaning and experience are created by, or enacted through, the continuous reciprocal interaction of the brain, the body, and the world.”⁴⁴⁷

We can take these five key ideas which are interwoven together in web-like form, and pick out three distinctive ‘modes of bodily activity’ which make up the enactive approach, and which we will see further on contributing to the development of the Phenomenological-Enactive Minimal Self (PEMS): (i) self-regulation; (ii) sensorimotor coupling; and (iii) intersubjective interaction.⁴⁴⁸

An enactive approach which draws on the theory of nested neural hierarchies that Feinberg has proposed gives us several important benefits when trying to understand basic consciousness.

⁴⁴⁶ Colombetti, Giovanna, and Evan Thompson. “The Feeling Body: Toward an Enactive Approach to Emotion.” Developmental Perspectives on Embodiment and Consciousness. Eds. W.F. Overton, U Mueller, and J. Newman. (NY: Erlbaum, 2008), 55-56.

⁴⁴⁷ Colombetti and Thompson. “The Feeling Body.” 56.

⁴⁴⁸ Colombetti and Thompson. “The Feeling Body.” *ibid.*

First, our exploration of the PEMS showed us that there seems to be a prereflective aspect to our existence. In part I this was referred to as the prenoetic corporeal-kinetic patterning (CKP), of which an example would be the way in which we maintain posture while sitting or standing, or the means by which we maintain balance while walking along the pavement or running across a field. The exploration of infant development showed how this emerged in our earliest development. Second, in part II, prenoetic consciousness encompassed part of the homeostatic equilibrium that underlies our emotional life in Jaak Panksepp's theory of affects. This involved the affects which accompanied instinctual emotional behaviours. In our attempt to maintain homeostatic equilibrium of our body and deal with external stimuli, the human animal has developed certain 'pre-propositional gifts of nature' that have created seven primal emotional action dynamics that form the basis for our higher-order emotional development. Finally, in this chapter, the subpersonal and prereflective consciousness appeared – and was labelled – as 'system 1' under the dual-process theory of consciousness, and the 'interoself system' (and perhaps the 'exterosensorimotor system') under the nested neural hierarchy theory. This type of prereflective self-regulation fits nicely into the enactive approach which states that living agents actively generate and maintain their own identities (see point 1 on the enactive approach). Through in part something like synchronous neural oscillations, we have a bridging between the different hierarchical levels – everything works together interdependently to create conscious experience. This can explain why although there are always many things going on in us internally and externally, we always possess a unified, meaningful, experience. So, with systems 1 & 2, and then with the nested neural hierarchies, we have seen explanations of some of the mechanisms that fill in the gaps in explaining how the phenomenological sense of self exists and develops. The dual-process theories laid out a framework in which to roughly understand the reflective and prereflective aspects of consciousness, but didn't integrate them well enough in a dynamic and enactive way. Feinberg's nested hierarchy integrated the levels much better, but it still didn't emphasize the sensorimotor aspect as much as the PEMS approach wants. However, his theory does include dynamic interaction and self-organization. So although the nested hierarchy view is not a fully enactive account, it was another step towards it by giving us a greater understanding of how mental unity can be arrived at. For a PEMS account, we can draw upon the points we learned in part I and part II and integrate them with what we've seen here. Infant development (with their structural coupling with the environment), as well as Panksepp's primal affects (which are sensorimotor based and associated with environmental coupling), can be integrated with elements of Feinberg's nested hierarchy to solve this problem; by doing so we get a clearer

understanding of how the reflective and prereflective elements relate and create a unified consciousness and sense of self.

Second, our look at the self has shown that there is something which is a personal or reflective aspect of our experience and existence. In part I this appeared as corporeal-kinetic intentionality (CKI), where we can find an example in how we attend to some part of our body when focusing on a task, such as purposely trying to pick up a hot mug of coffee. In part II reflective aspects of experience appeared as some of the cognitive appraisal theories we looked at. For example, upon seeing a picture of a deceased loved one, I might unconsciously develop a feeling of sadness, but we can then reflect on this emotion and thus accentuate the feeling of sorrow. In this chapter the reflective aspect of our experience appeared as 'system 2' under the dual-process theory, and as the 'integrative self system' under the nested neural hierarchy theory. This also fits nicely into the enactive approach, since it shows how these different self-making CKP and CKI structures can influence each other, but it is not simply one of dominance or control of a higher level over a lower level, instead it allows for the nuances we find in a vast number of systems, and how a constant interaction between these different systems – perhaps through synchronized oscillations – work together in a continual process generating and maintaining in a circular fashion meaningful patterns of autonomous activity (see points 1 and 2 on the enactive approach).

When we go about our daily life there is a unity to our experience. We experience an *entire* situation, not just fragments or isolated components. It is true that occasionally we look at something that is happening to us in an isolated way, or we feel detached from the world (such as depression); in extreme cases these types of detachments can even become pathological. But this is the exception, not the rule of common experience. The important thing to remember is that basic, self-regulating enactive systems organize and consistently maintain a core self. This problem has been largely ignored by those studying the self. The problem with how this issue has been traditionally looked at is to emphasize too strongly a division between one part of the brain and another, or between internal body and external world. What the Phenomenological-Enactive Minimal Self (PEMS) gives us is a way to see that our self-making bodily and affective elements are not that fractured or simple to break apart. The PEMS demonstrates how dynamic interactions generate meaning and unity across systems and levels. This chapter has looked at several theories of consciousness that have step by step contributed to an increase in our understanding of how the creation, maintenance and meaningful unity of the self might occur.

Chapter 11: The Phenomenological-Enactive Minimal Self: the Changing Self as Unity

“[T]here is a minimal sense of self present whenever there is self-awareness. Self-awareness is there not only when I realize that I am perceiving...but whenever I am acquainted with an experience in its first-personal mode of givenness...In other words, pre-reflective self-awareness and a minimal sense of self are integral parts of our experiential life.”⁴⁴⁹

In this final chapter we will quickly summarize the Phenomenological-Enactive Minimal Self and then contrast it with three other competing theories: Daniel Dennett's idea that the self is a fictional centre of narrative gravity; Thomas Metzinger's Phenomenal Self Model; and Francisco Varela, Evan Thompson, and Eleanor Rosch's own enactive theory of the self. The goal is to get a grasp of the big picture of what has been argued for with the Phenomenological-Enactive Minimal Self (PEMS), and demonstrate how the PEMS theory addresses some of the issues that show up with these other views.

Phenomenology and Enactivism

We saw in the Introduction that phenomenology explores the structure of our experience. It states that there needs to be an integration of self and experience.⁴⁵⁰ There is an immediate experiential reality to our conscious life that exists in its first-person givenness. This minimal self in its experiential givenness, is the most minimal condition for there to be a self at all. The minimal self is both developmentally and causally necessary (but not sufficient) for any more sophisticated notion of self to exist. Nothing that lacks these dimensions can be called a self. We have sought this minimal selfhood – in Merleau-Pontian fashion – with the integration of body and environment. As we saw from a quote from Merleau-Ponty in the Introduction:

“In so far as I inhabit a ‘physical world,’ in which consistent ‘stimuli’ and typical situations recur...my life is made up of rhythms which have not their *reason* in what I have chosen to be, but their *conditions* in the humdrum setting which is mine. Thus

⁴⁴⁹ Zahavi, Dan. Subjectivity and Selfhood: Investigating the First-Person Perspective. (MA: MIT Press, 2005), 146 (emphasis original).

⁴⁵⁰ Zahavi. Subjectivity and Selfhood. 106.

there appears round our personal existence a margin of *almost* impersonal existence, which can be practically taken for granted, and which I rely on to keep me alive.”⁴⁵¹

According to the phenomenological notion of self, our experiences are not to be viewed as objects, but rather as what provides us with access *to* objects. This access to objects is accompanied by a sense of *mineness*. This built-in, primitive, self-referential sense of *mineness* came to our attention time and again during the development of this project through infant development studies and ‘existential feelings.’ The ‘rhythms’ of life that Merleau-Ponty speaks are tied to the conditions of our everyday life. This could be seen in the most basic interactions between infant and caregiver, as well as our most basic bodily movements as we engage in primal affective behaviour. It is through these interactions between our self with others and the environment that Merleau-Ponty’s ‘almost impersonal existence’ is manifested as the minimal self. It is this ‘almost impersonal existence’ which is largely taken for granted by us, yet is a vital pre-reflective element of the minimal self.

Enactivism (along with the embedded, embodied, and extended views of cognition), is an approach to understanding the mind that focuses on the situated context in which the organism finds itself. Broadly speaking, enactivism says that mental processes are constituted by a continuous, mutual, interaction of (i) neural processes in the brain, (ii) actions performed by the organism in an environment, and (iii) ways in which the environment acts on the organism. Enactivism says that these types of activities not only generate or maintain themselves, but more than that, they enact (or bring forth) cognitive domains with meaningful patterns of activity.⁴⁵² It is an approach which shows not only how different perceptual, biological, and situated ecological processes are self-maintained and generated, but how something new can emerge from these activities.

Like phenomenology, enactivism has been influenced by figures such as Merleau-Ponty and Heidegger, and just as Shaun Gallagher’s views were used earlier to support the phenomenological aspect of a minimal self, his views also can be used (in part) to support an enactive perspective. What has been done in this project is to take enactivism and apply it to the idea of a minimal self, and from that perspective we’ve focused on the following idea: that the minimal self is based on the relational dynamic of an individual’s sensorimotor interaction with the environment, and how this generates a sense of *mineness* – a dynamic form of vitality – which creates a basic element of identity and provides a foundation for expanded awareness

⁴⁵¹ Merleau-Ponty. Phenomenology. 96 (emphasis original).

⁴⁵² Thompson, Evan. Mind in Life: Biology, Phenomenology, and the Sciences of Mind. (MA: Harvard, 2007), 13.

and self expansion (with the expanded self referred to here being the more robust narrative self). This constant dynamic patterning modulates the development of the experiencing self, and over time different patterns are laid down which provide some foundation for later narratives to arise as a reflective and narrative self emerges. It is through movement at its most basic level that self and subjectivity are built from the bottom up. Dynamic patterning and experiential mineness together show why phenomenology and enactivism are so closely linked in this process. The case studies we looked at went a long way in pulling together these ideas and giving them substance.

Types of Selves: the PEMS response to other notions of self

In the introduction we had a brief overview of various notions of self which included the idea that the self was a type of narrative, and a no-self view based in neuro biology. Let us consider first the narrative notion of self. The narrative self can be looked at from several perspectives. One position – the hermeneutical position – says that as long as you are living you cannot establish a fixed or unchangeable self (or self-understanding). The self is not a thing; a self under this viewpoint is something based in self-comprehension, self-knowledge, or interpretation.⁴⁵³ You cannot be a self on your own, you only come to know who you are in participation with others: “selfhood...implies otherness to such an intimate degree that one cannot be thought of without the other.”⁴⁵⁴ This self is narrative based: “[w]ho we are depends on the stories told about us, both by ourselves and by others.”⁴⁵⁵ Social constructivists argue along similar lines: selves emerge from our social interactions. The self is to be seen as more of a social phenomenon – a theoretical concept which we model on a public concept of what a person is. Their basic thesis is that the private or personal sense of identity we have, once it is made available to the members of our culture, ends up becoming the myth that there is such a thing as the self.⁴⁵⁶ The self is a culture-relative social phenomenon. According to a hermeneutical narrative notion of self, then, there is no self which is fixed or unchangeable, instead the self is something constituted by the stories told about us by ourselves and others.⁴⁵⁷ The PEMS perspective agrees with the idea that the self is not unchanging and static, but states that all the narrative elements emerge from the

⁴⁵³ Zahavi. Subjectivity and Selfhood. 105.

⁴⁵⁴ Ricoeur, Paul. Oneself as Another (Tr. Kathleen Blamey). (IL: University of Chicago Press), 3.

⁴⁵⁵ Zahavi. Subjectivity and Selfhood. 109.

⁴⁵⁶ Kolak, Daniel and Raymond Martin. “Self: Introduction.” Self & Identity: Contemporary Philosophical Issues. (NY: Macmillan, 1989), 343.

⁴⁵⁷ Zahavi. Subjectivity and Selfhood. 109.

corporeal-kinetic, kinaesthetic and bodily-affective elements that have been generated, and even once the narrative elements emerge, the corporeal-kinetic and affective elements (the dynamic forms of vitality) continue to play a role because of the constant existence of a brain-body-environment of relational engagement which allows new elements of a generated self to be enacted or brought forth as new patterns of meaningful activity emerge.

Evidence for this was found in chapter 1 when we looked at the pre-narrative self of the infant. The infant generates and maintains relationships between itself and its caregiver through sensorimotor engagement. We can recall Daniel Stern's four different stages of self which show up during the first three years of life. A minimal self is generated and maintained, yet new elements are enacted and brought forth through these vitality dynamics which lead to a narrative self, but a narrative self which is still intricately linked with a minimal self attuned to the vitality dynamics of interaction. There was further evidence presented in our discussions of gestures in chapter 5 when we saw that gestures and bodily expression precede – and even influence – the development of verbal language. Gestures are an important element of self expression, not just at the narrative level, but at the minimal level. And we saw demonstrated by reference to Damasio and Panksepp in chapters 6 and 7 that affects are bodily based and emerge and develop – at least initially, and to some degree continually – in a largely pre-reflective, minimal, way as, for example, primal affective behaviour. Perhaps the best way in which this view of the Phenomenological-Enactive Minimal Self can be understood is by showing how it – along with the evidence that supports it – stands up to other approaches to minimal selfhood (and the relationship between the minimal self and narrative self). What other views of selfhood exist and what might need to be re-thought in regards to them?

A Critique of Daniel Dennett's Minimal Self and Centre of Narrative Gravity

One notion of narrative self that was introduced briefly in the introduction was a biologically based one put forward by Daniel Dennett. He describes the self as a story that is 'told' by the physical organism based on its biological need for self-preservation.⁴⁵⁸ He does allow for a minimal self, but for him it is not an actual 'thing' but instead something abstract that the organism does "to distinguish, control, and preserve portions of the world," it is "an

⁴⁵⁸ Dennett, Daniel. "The Origins of Selves." *Self & Identity*. 362.

organization that thereby creates and maintains boundaries."⁴⁵⁹ The last part of his statement is enactive-friendly, so we will have to consider that a bit more closely. But before we do so, let us get a more detailed look at what Dennett is trying to say.

Dennett begins by stating that "[t]he original distinction between self and other is a deep biological principle; one might say that it is the deepest principle, for biology begins in *self*-preservation."⁴⁶⁰ So far his theory and the PEMS are in complete agreement, for you might remember from chapter 6 that Jaak Panksepp put forth seven primal, basic affects that are to be found in *all* animals (they were seeking, fear, rage, lust, care, panic, and play). Self preservation would fit in some of these categories (such as, perhaps, fear, or panic). Panksepp also had the idea of a SELF (which stands for Simple Ego-type Life Form) as being one of the most basic elements of the organism trying to maintain its homeostasis.

The similarity between Dennett's account and PEMS, however, becomes more complicated with what Dennett says next:

"So a minimal self is not a *thing* inside a lobster or a lark, and it is not the 'whole lobster' or 'whole lark' either; it is something abstract which amounts just to the existence of an organization which tends to distinguish, control, and preserve portions of the world, an organization that thereby creates and maintains boundaries [...] You are what you control and care for [...] The boundaries of the minimal self are not only permeable...but flexible as well."⁴⁶¹

What can we make of this? First we can agree with the latter part of this quote, where Dennett talks about distinguishing, controlling and preserving portions of the world and creating and maintaining boundaries which are flexible. However, a difficulty arises when he says that 'a minimal self is not a *thing* inside' nor the whole organism as a whole, 'it is something abstract.' As we saw with PEMS, the minimal self *is* the fully embodied organism. It also is not something 'abstract,' but in fact something real based on a relational engagement between the organism and environment. There is more that needs to be said regarding this, but let us move on a bit further for the moment to build up a larger understanding of Dennett's view and we'll revisit this again afterward.

Dennett's next step is a jump from something biological and minimal to something social and language based: "We...are almost constantly engaged in presenting ourselves to

⁴⁵⁹ Dennett. "The Origins of Selves." Self & Identity. 358.

⁴⁶⁰ Dennett. "The Origins of Selves." Self & Identity. 356 (emphasis original).

⁴⁶¹ Dennett. "The Origins of Selves." Self & Identity. 358 (emphasis original).

others, and to ourselves, and hence *representing* ourselves – in language and gesture."⁴⁶² Here I think Dennett doesn't demarcate well enough between a minimal self and a narrative self; he has unwittingly passed from minimal self to narrative self, conflating the two. What is a 'minimal' self for Dennett, and how does it differ from something more than that (what he calls our 'selfy self')? This issue is made even more explicit when he says:

"Our human environment contains not just food and shelter, enemies to fight or flee and conspecifics with whom to mate, but words, words, words. These words are potent elements of our environment that we readily incorporate, ingesting and extruding them, weaving them like spider webs into self-protective strings of *narrative*. Our fundamental tactic of self-protection, self-control, and self-definition is not building dams or spinning webs, but telling stories...about who we are...we...do not consciously and deliberately figure out what narratives to tell and how to tell them...our human consciousness, and our narrative selfhood, is their *product*, not their *source*."⁴⁶³

It should be very clear from this passage that Dennett moves from humans seeking food and reproductive partners to stringing together narratives as if they are all of equal status as the biological animal that we are. But how does this compare with the data we've looked at in support of PEMS? Several terms need to be looked at here to see how Dennett is using them. First we have the idea of the self being 'abstract' (mentioned earlier). Then we have the mention of gesture, language and storytelling, but this is not the hermeneutical variety of an actual verbal or spoken narrative that is given, rather, this is a narrative that we are not conscious of and do not deliberate upon. The idea that he is expressing here is not that far from PEMS. PEMS tells us that the primal seven emotions do affect our responses to ourselves, others, and the environment. Ratcliffe's 'existential feelings' showed that our moods alter the way in which we interpret our place in the world, what possibilities we think exist for a course of action, and what things and actions we place emphasis and focus on. So there are some kinds of 'interpretation' which do occur that we are not conscious of (or are pre-reflective), but should we call this a 'narrative,' or 'storytelling'? Think back to one of our examples from chapter 6. There we considered a scenario where we were walking through the woods and hear a branch break off nearby startling us. This occurrence causes our heart to beat faster and we leap to the side, perhaps thinking it might be a large bear, only to discover it was the wind that caused an old and rotten branch to fall to the ground. In this particular

⁴⁶² Dennett. "The Origins of Selves." *Self & Identity*. 359 (emphasis original).

⁴⁶³ Dennett. "The Origins of Selves." *Self & Identity*. 359-360 (emphasis original).

case we, as a biological organism, created a narrative or story of sorts ('watch out, a bear is coming!') that is based on a quick response to a couple of the primal affects (fear and panic). So far, then, what we have with Dennett seems to be a view compatible with PEMS, but using questionable terminology to convey it. The next step, however, brings the problem into the light.

Dennett says that the "streams of narrative issue forth *as if* from a single source," they seem to be about a single, unified agent, this is what he calls the 'center of narrative gravity.' "This is yet another abstraction[, an] *attractor of properties*."⁴⁶⁴ Dennett says that we as human beings need some inner figurehead or 'Head of Mind.' In the course of our normal development we are confronted and become acquainted with many experiences which provide us many possibilities for selfhood – we don't originally have a 'Head of Mind.' But over time we unconsciously create more ideal fictional selves and then 'elect' one of them as our Head of Mind. This 'spokesperson' for the person is based on the language-producing systems within our brain - "what 'I' (my self) thinks *is* what 'I' (my language apparatus says)."⁴⁶⁵ It is at this point where the conflation should now be clear. Dennett is giving the language parts of the brain special privilege. So here we see that his idea of self *is* a narrative self. He states it is the biological organism engaged in self-preservation which creates (unconsciously) the self, but the actual creator of the self is based in the 'language apparatus.' How does PEMS respond? From what we saw in chapter 1, the infant initially develops identity through movement, bodily interaction, and affect attunement. Chapter 5 showed that in children as well as in deaf and blind adults, language development is based in gesture and movement. And chapter 6 showed that feelings and emotions have their basis in movement as well, and that both are pre-linguistic in origin. If we are to view this selfhood as based on the organism's self-preservation, then basing it in language-based brain systems would seem to be a mistake – we were engaged in biological self preservation before we had language. This is not to say that language may not play a role, for PEMS argues for systems that are in constant, mutual interactions that generate and maintain themselves, one or more of which may involve language. But if what we are dealing with is something produced at the level of biological self-preservation, then the language apparatus doesn't come into its own until later in development. So let us reconsider our conclusion from the previous paragraph. If I heard a branch snap, I jumped, felt my heart rate increase, and thought to myself ('Bear!'), this is only something that my adult - language developed - self would say. If a small child just at the

⁴⁶⁴ Dennett. "The Origins of Selves." Self & Identity. 360 (emphasis original).

⁴⁶⁵ Dennett. "The Origins of Selves." Self & Identity. 362-363 (emphasis original).

beginning of its language use were to experience this, they may think something much simpler and vague like 'monster', or 'forest creature,' since they have not experienced other animals, or learned the words or expressions to describe it. If we are dealing with a pre-linguistic child, then the response may rely on imagery brought to their mind of something from their dreams, pictures in a storybook, a costumed person at a birthday party, or carnival, paintings, photos, or something from the television. And this response can still be tied-in with one of Panksepp's pre-linguistic primal affects such as 'fear' or 'panic.'

But we are not yet done; there is one other area where we can criticize Dennett's view of self. Dennett's way of illustrating his 'center of narrative gravity,' is to look at Multiple Personality Disorder (MPD; what is now called Dissociative Identity Disorder, or DID). DID occurs in people who have suffered from severe physical or sexual trauma. It is believed that as a way of protecting themselves from the horrors of the abuse, the person sets up a barrier or boundary, so that the horror 'doesn't happen to them.' The result is that their self 'leaves' and either leaves no-one in its place, or else creates 'another self' (or selves) that are better able to deal with the physical abuse. These other selves are referred to as 'alters'.⁴⁶⁶ What makes one alter different from another is in their personality and emotional makeup. If the original self was shy, soft spoken and caring, the alter may be loud, out spoken and un-feeling. The alters may also have very different value systems. One other thing we need to keep in mind with DID is the relationship the alters have with each other. Some are aware of the other 'selves' and can even access their memories. Sometimes the alters can do more and actually observe when another alter is in control of the body. And yet other times the alters are completely oblivious to there being other 'selves' (they just think that they *are* the self while they are in control of the body and may just dimly be aware that there are 'empty spots' in their memory and actions).⁴⁶⁷ It is this insight which leads us to the second problem of Dennett in regards to his fictional/narrative self theory.

Think back to our discussion of chapter 4, where we looked at bodily ownership and bodily agency. A robust self (which we can think of as having a developed minimal self and narrative self), has a sense of bodily ownership and bodily agency. What about an alter? Let us assume for the moment that an alter *is* a self.⁴⁶⁸ When one alter takes over from another, bodily agency has changed, but has bodily ownership changed? From the PEMS perspective,

⁴⁶⁶ Dennett. "The Origins of Selves." Self & Identity. 361.

⁴⁶⁷ Dennett. "The Origins of Selves." Self & Identity. 363.

⁴⁶⁸ There is a debate over this in the literature, with some arguing that an alter may not be a self, but merely a personality, or to put it another way, you are not dealing with a 'person,' but just a 'personality.'

we can argue that the different alters we see may simply be the reflection of the underlying trauma and breakdown of their bodily unity. During physical or sexual abuse, the abuse victims have lost some elements of agency over their body, and since the victims don't want the sense of bodily ownership while they are experiencing physical or sexual abuse, they attempt to create a distance from the trauma, and this gets reflected at the level of personality. We in effect are witnessing bodily agents with only sporadic bodily ownership. Rather than viewing this from a language-based perspective, it might be illuminating to consider this from a bodily PEMS perspective, which would say that the narrative self alters we encounter are bodily based and not linguistically based. That is, PEMS would say that the splintering of a victim's personality at a 'narrative' self level is a higher level reflection of the split of bodily ownership/agency which lies underneath.

Consider the following hypothetical scenario. We have Susan, who is the original self, and Katy, who is the alter; they may swap back and forth as agents of the body, but which of them *owns* the body? If Susan's body is being physically abused, then there is bodily strain and pain; and if her narrative self has developed to some degree, it is understandable from a PEMS perspective that this bodily trauma will get reflected – in part – at the (higher) narrative level. Susan may be shy, introverted and caring, and she may move about in a way which we might consider 'closed,' or non-expressive; whereas Katy is loud, out-spoken, un-feeling, and moves about in a very 'open' and expressive way. PEMS has shown that bodily movement is essential to self development. So if we have a case where Susan, the non-expressive introvert is being frequently restrained by her abuser, then perhaps the Katy alter – who is very open and expressive – is in part a bodily reaction to this physical trauma. A PEMS perspective might look at this situation and rather than focus just on the alter at a psychological, language-based narrative level, look below to see if there is not a minimal bodily perspective worth exploring to provide us with a different insight or understanding of this trauma. We can ask the following: has the alternate psychological personality created a new bodily expression, or, is it possible that the change in bodily response and expression helps create the narrative personality which is expressed and encountered? A PEMS approach would want to look at this body/mind relation more closely from a perspective of multi-directional modulation, and see what is doing the generating and maintaining of different selves.

We need to keep in mind this creation of multiple alters is occurring in individuals who have *already* developed a narrative self (Stern identified the narrative self as emerging after age 3, and DID patients are older than this), and we can see that the older the victims are – and the deeper they've moved into mature adulthood – the greater in linguistic development

and richness the personality their alters have. The younger they are, the less language-based skills they are able to rely upon, since they haven't yet emerged, thus, there is a much greater role for bodily movement and affects, and it is these much more basic form of vitality dynamics that should be taken into account in assessing this scenario. Thus, Dennett's reliance on DID as evidence for his 'center of narrative gravity,' is an example which emphasizes too much the narrative aspects of self, while neglecting the minimal bodily aspects of self. He has blurred the contribution of a minimal, bodily self, and a narrative self, as well as getting their character wrong.

So before moving to our next case (Thomas Metzinger's 'No-Self' view), let us summarize the criticism of Dennett. First, Dennett says that our "minimal proclivity to distinguish self from other in order to protect *oneself* is the biological self, and even such a simple self is not a concrete thing but just an abstraction, a principle of organization. Moreover the boundaries of a biological self are porous and indefinite."⁴⁶⁹ We agreed that this ability to distinguish self from other because of protection is a biological self, but with the idea of an abstraction Dennett is sneaking in a psychological, language-based bias. This move can be seen in the phrases "Out of its brain it spins a web of words and deeds, and, like the other creatures, it doesn't have to know what it's doing;" and "selves are...artifacts of the social processes that create us [where stability is given to it] by the web of beliefs that constitute it, and when those beliefs lapse, it lapses."⁴⁷⁰ Although we can agree that language use is important for human beings and must play a role at some level, Dennett has in effect made part of the narrative self part of our more basic biological self, which we have seen is based in movement and affect rather than language. Making this shift from the minimal level to the narrative level without properly understanding the boundaries or relationship between the two, leads to complications and confusions with the example he used (DID). When dealing with the case of Dissociative Identity Disorder, there were problems of understanding the relationship between bodily ownership and bodily agency, and the confusion stems in part from the fact that he is focusing on narrative and neglecting a minimal or bodily perspective. We also saw how a Phenomenological-Enactive Minimal Self perspective might give us a new approach in order to understand this disorder. The next perspective we will look at also deals with certain pathological cases.

⁴⁶⁹ Dennett, Daniel. Consciousness Explained. (MA: Back Bay Books), 414 (emphasis original).

⁴⁷⁰ Dennett. Consciousness Explained. (MA: Back Bay Books), 416, 423.

A Critique of Thomas Metzinger's Phenomenal Self-Model (PSM)

In the introduction we briefly scrutinized a no-self position that Thomas Metzinger argues for. According to his Phenomenal Self-Model (PSM) view, the conscious model that a person has is a simulation which is created in the brain. Most importantly for our view, however, is that he thinks our experience “is not reality itself but an image of reality.”⁴⁷¹ Let us take a closer look at Metzinger's PSM account so that we can see the difficulties with it.

For Metzinger biological organisms exist, but a biological organism cannot be considered a self. What they have are simply complex brain states. What sets human consciousness apart from most other animal consciousness, is that our consciousness creates a type of ‘inwardness’ (“the ability to turn the first-person perspective inward, to explore our emotional states and attend to our cognitive processes.”)⁴⁷² For us as humans our brain states are so complex that we don't recognize that what we are experiencing is simply a world-simulation that these brain states produce. The image we have of ourselves in the world (which includes our body, psychological states and our temporal relationships to other beings) are all part of this brain state simulation. The result is that the self we think we have is simply the content of an inner image (the PSM). From the process of placing this self-model inside a world-model a centre-point is created. The centre-point of this process is the Ego which we think of as *our self*.⁴⁷³

This view of Metzinger's gives us a different view of the self from what we've looked at. His PSM states that there is not a *real* bodily or affective self which we experience, rather what exists are just *phenomenal* selves (that is, selves that are the properties of complex representational processes within physical systems).⁴⁷⁴ Metzinger's PSM view can be summarized in the following points:

1. Things such as selves do not exist in the world. “Nobody ever *was* or *had* a self.”
2. “All that ever existed were conscious self-models that could not be recognized as models.”
3. “The phenomenal self is not a thing, but a process.” The self-model is transparent: you don't see this transparent self – you see *with* it.

⁴⁷¹ Metzinger, Thomas. The Ego Tunnel: The Science of the Mind and the Myth of the Self. (NY: Basic Books, 2009), 8.

⁴⁷² Metzinger. The Ego Tunnel. 16.

⁴⁷³ Metzinger. The Ego Tunnel. 7.

⁴⁷⁴ Metzinger, Thomas. Being No One: The Self-Model Theory of Subjectivity. (MA: MIT Press, 2003), 577.

4. "Consciousness, the phenomenal self, and the first-person perspective are...*representational* phenomena."
5. The PSM position is representationalist and functionalist in how it analyzes conscious experience.⁴⁷⁵

What should we make of this? Dan Zahavi points out that Metzinger seems to rely on a classical view of the self as some "mysteriously unchanging essence" which is a "process-independent...substance that could exist all by itself."⁴⁷⁶ Since Metzinger denies this conception of self (i.e. that it is an independent substance), according to Zahavi, he concludes that there are no such things as selves. In what we've just looked at, Zahavi's point seems to be supported. Points 1 and 3 state that there have never been selves that have been 'things.' So the first issue we've identified is that Metzinger interprets the self as some unchanging thing.

On the other hand, Metzinger says that his PSM is a process of complex representations within physical systems. At first this would seem consistent with the Phenomenological-Enactive Minimal Self, for as we've seen, PEMS is *based in* the dynamic processes of the biological organism in its situated and contextual involvement in the world and the entities which it encounters. PEMS is based in a processual metaphysics. But here is where PSM and PEMS part ways, for instead of these processes giving us some detached simulation of the world, PEMS argues that the first-personal 'givenness' and 'mineness' which we experience is very real indeed (here is where we can look back to chapter 8 and our examination of Ratcliffe's existential 'feelings of being' and his examination and emphasis on the lived, real, structure of experience; or in chapter 1, the immediate and real affect attunement between infant and caregiver). PEMS has tried to demonstrate through our look at infant development and interaction, and Ratcliffe's 'existential feelings,' that the self that is being referred to is, to use Zahavi's words: "not something standing beyond or opposed to the stream of experiences, rather it is a feature or function of their givenness. It is the invariant dimension of first-personal givenness in the multitude of changing experiences."⁴⁷⁷ The question comes down to asking 'how do we articulate the sense of being someone?' Zahavi states "The phenomenologists would argue that the self is real if it has experiential reality, and

⁴⁷⁵ Metzinger. *Being No One*. 577 (emphasis original).

⁴⁷⁶ Zahavi, Dan. "Being Someone." (*Psyche*. Vol. 11 (5), June 2005), 8.

⁴⁷⁷ Zahavi. "Being Someone." 10.

that the validity of our account of the self is to be measured by its ability to be faithful to experience, by its ability to capture and articulate (invariant) experiential structures."⁴⁷⁸

How might Metzinger respond, and what other ideas can he draw upon? What we will look at now is Metzinger's use of bodily ownership. A sense of ownership is a type of immediate or automatic bodily self-attribution that pulls together our conscious content into what we experience as our self. Metzinger says that the model we have of our bodily self is the result of a multisensory integration of processes, the bodily self-model emerges from these automatic and subpersonal processes, which bind together these various features, achieving a type of coherence; these processes include background emotions. This coherence creates a type of 'body constancy' – our bodily ownership.⁴⁷⁹ This bodily ownership can even extend outward with objects we use (think of a blind person's cane – it becomes in part an extension of their body). There is much to agree with here from a PEMS perspective, yet from all this Metzinger states that what we have is a bodily self *model*, an "integrated representation of the organism as a whole, in the brain."⁴⁸⁰ Why a model? And what can we make of his talk of representations? Representations imply a copy of something that has been presented to us (a *re*-presentation). This presents problems with trying to tie together the idea of a continuous series of dynamic processes with the idea of some copy or representation of what is happening. If we are engaged in a cauldron of dynamic and complex interactions within the brain, body, and environment, what is being represented? The idea of representation implies a type of mirroring of reality (or, as Metzinger clearly states – a *model* or *simulation* of reality). Metzinger's representations cut the organism off from the world. Because of this issue, PEMS is sceptical of representation, since PEMS gives primacy to the immediacy, real-time fluidity of our movement, actions, and affective states, which are sensitive to our current contextual situation. That is not to say that no representational view of any kind can be accepted, however, for Andy Clark and Michael Wheeler have spoken of '*action-oriented representations*.' The idea here, from Wheeler's summary of Clark, is "that the representations concerned emerge as being both encodings of how the world is and, simultaneously, specifications for appropriate actions." Wheeler takes this further by saying: "If we think about the functions that action-oriented representations perform within the overall perception-action cycle, then of course those structures will be causally correlated both with how the world is on the input side and with the actions generated on the output side."⁴⁸¹

⁴⁷⁸ Zahavi. "Being Someone." 11.

⁴⁷⁹ Metzinger. The Ego Tunnel. 76-78.

⁴⁸⁰ Metzinger. The Ego Tunnel. 82.

⁴⁸¹ Wheeler, Michael. Reconstructing the Cognitive World: The Next Step. (MA: MIT Press, 2005), 197.

For Wheeler, then, action-oriented representations “are poised between mirroring and control.”⁴⁸² What do action-oriented representations do, then? They are based on the idea that “how the world is *is itself encoded in terms of possibilities for action.*”⁴⁸³ Under this interpretation, we are dealing not with a representational knowledge *that* the environment is a certain way, but *how* we deal with the specific contextual situation in which we find ourselves.⁴⁸⁴ PEMS argues for an understanding of the organism as engaged in a real-time, direct, coupled manner with the world. So although PEMS is sceptical of representation, a Clark-Wheeler approach is workable within a PEMS scheme as a means of revealing opportunities for how we might interact with the world. So Metzinger’s view of the bodily self model as an integration of representations, he neglects important insights of how an organism engages in immediate, real-time, direct, coupling with the world that allows for possibilities for action.

We need to return to Metzinger’s idea of the self as a ‘simulation’ or ‘model.’ What is most fundamental to selfhood? Metzinger wonders whether we will still have an Ego if we take away thinking, feeling, and autobiographical memory. To answer this question he demarcates between a ‘bodily’ self and a ‘seeing’ self. The first is represented phenomenally as an inhabitant in space, and the latter is an “extensionless point.”⁴⁸⁵ This further clarifies the difference between PSM and PEMS. According to PEMS, Metzinger is separating the phenomenological perspective from the body’s location. The PEMS approach has tried to show that they are inseparable – the bodily self *is* the perspective of itself and the world in their dynamic interaction and possibilities. Metzinger says that “Emotions, will, and thoughts are not necessary for the fundamental sense of selfhood.”⁴⁸⁶ PEMS disagrees. PEMS has shown that emotions (along with feelings and moods) are an essential feature of the minimal self, both from an evolutionary perspective (Panksepp), from a phenomenological perspective (Ratcliffe), and developmentally (Stern and Trevarthen). PEMS also says ‘will’ is important. We saw with our look at the difficulties of breaking body schema/corporeal-kinetic patterning from body image/corporeal-kinetic intentionality, and bodily ownership from bodily agency the overlap that exists. Then there was the difficult relationship we saw between system 1 and system 2 as a model for consciousness, deciding that a nested neural hierarchy – and later an enactivist perspective – better explained the operation of will and thought and how they

⁴⁸² Wheeler. Reconstructing the Cognitive World. *ibid.*

⁴⁸³ Wheeler. Reconstructing the Cognitive World. *Ibid* (emphasis original).

⁴⁸⁴ Wheeler. Reconstructing the Cognitive World. 198.

⁴⁸⁵ Metzinger. The Ego Tunnel. 85, 100.

⁴⁸⁶ Metzinger. The Ego Tunnel. 101.

relate to each other. And phenomenologically we saw that will or intentionality was an element of our minimal self as we understood and felt the world as one of possibilities (Ratcliffe; as well as our discussion on depression).

Metzinger thinks the essence of selfhood is that “we must have a Now, plus a spatial frame of reference, and a transparent body-model. Then we need a visual (or auditory) perspective originating within the body volume, a center of projection embedded in the volume of the body...It is the step from selfhood-as-embodiment to selfhood-*as-subjectivity*.”⁴⁸⁷ All this seems to be both over-complicating the matter and setting up artificial distinctions where none exist. It is fair to say that we have a body-model of sorts at the level of the corporeal-kinetic intentionality (CKI), although the idea of a ‘model’ at this level would still not fit with what Metzinger is advocating (i.e. that the self at this level is a ‘simulation’), for it is still based in – and continually being modulated by – corporeal-kinetic patterning (CKP). How is a simulation supposed to occur when the supposed simulated model is engaged in real-time modulation and influence with the CKP? At the level of CKI there can be simulation and representation, but at the level of CKP there isn’t pure simulation going on, and it is questionable that there is representation going on as well (at best there would be action-oriented representation, and any simulation going on would be some of the emulator sub-systems *within* the CKP, *not* the CKP itself).⁴⁸⁸ A spatial, visual and auditory frame of reference does originate within the body, but it is the *lived*, perspectival, dynamic body. Projection occurs at the bodily level where we are engaged in a dynamic, direct, interaction with the world. Our selfhood-as-embodied and selfhood-as-subjectivity overlap from the very beginning, indeed, one might as well say that embodied selfhood *is* selfhood as subjectivity. Let us go back to a specific Zahavian point (which PEMS would support): Metzinger thinks “Our self experience, our primitive pre-reflective feeling of conscious selfhood is never truthful in that it does not correspond to any single entity inside or outside of the self-representing system.”⁴⁸⁹ Metzinger says that a phenomenal experience while in a dream state is an *offline* hallucination, yet even a phenomenal experience during our waking state “is an *online* hallucination.”⁴⁹⁰ But as Zahavi then goes on to say “why should the reality of the self depend upon whether it faithfully mirrors either subpersonal mechanisms or external (mind independent) entities? If we were wholeheartedly to endorse such a restrictive metaphysical

⁴⁸⁷ Metzinger. The Ego Tunnel. 102 (emphasis original)

⁴⁸⁸ See chapter 4 for the details on this.

⁴⁸⁹ Zahavi. “Being Someone.” 11.

⁴⁹⁰ Metzinger. Being No One. 51 (emphasis original)

principle, we would declare the entire life-world we live in, and know and care about, illusory.”⁴⁹¹ I will draw on Zahavi for one final thought on Metzinger’s PSM. If Metzinger’s “phenomenal content cannot count as epistemically justified content couldn’t one by using the very same arguments show that there is no such ‘thing’ as phenomenal consciousness itself?”⁴⁹² How can we, under Metzinger’s view, identify something as ‘real’ or as genuinely existing if everything is to be interpreted as a ‘hallucination’ or a ‘simulation’ – where is the reality? Where is the real?

A Critique of Varela, Thompson, and Rosch’s Enactive Account of the Self

There is one other view of the self that is worth considering here, and that is a no-self view based in the enactive perspective. This will be instructive by allowing us to dig deeper into a view which shares many aspects with mine, but which ends up arriving at a different conclusion in regards to the self. In 1991 Francisco Varela, Evan Thompson, and Eleanor Rosch published *The Embodied Mind*. The book focused on integrating an embodied/enactive perspective, along with cognitive science, and Buddhist philosophy, to try to develop a deeper understanding of human experience. For our purposes we will just be focusing on their understanding of what the self is (or is not, as the case may be). We will then move on to some more recent developments of this view that have been proposed by Evan Thompson.

The first thing to notice in Varela et al’s exploration of the self is who they are comparing their view with. They begin with a reference to the views that challenged the naive view of the self that claimed there was “an independent, fixed, or unitary self within the world of experience.”⁴⁹³ Hume, for example, had searched for a self and had found only particular perceptions; and with Kant (as we saw briefly in the introduction), we had these various experiences, but there was something which bound them all together: there had to be some ‘transcendental ego,’ or self, which we needed to postulate to make sense of these various experiences, yet this ‘self’ was something which “can never be known to experience.”⁴⁹⁴ The way Varela and company respond to this is to incorporate an approach that was inspired from Buddhist teachings, but includes a strong enactive component to strengthen the position.

⁴⁹¹ Zahavi. “Being Someone.” *ibid.*

⁴⁹² Zahavi. “Being Someone.” *ibid.*

⁴⁹³ Varela, Francisco, Evan Thompson, Eleanor Rosch. *The Embodied Mind: Cognitive Science and Human Experience*. (MA: MIT Press, 1991), 59.

⁴⁹⁴ Varela et al. *The Embodied Mind*. 60.

These ‘five aggregates’ of the self are as follows (we will present them quickly now, and then lay them out in greater detail and critique them immediately after):

1. Forms
2. Feelings/Sensations
3. Perceptions/Impulses
4. Dispositional formations
5. Consciousnesses⁴⁹⁵

The first of these aggregates – the Forms – is physically based. This category makes reference to the body and the physical environment. Here we are dealing with our different senses and how these organs respond to/interact with the environment.⁴⁹⁶ Varela and company promote this category as a way of getting away from the abstract and disembodied observer that some have thought of as the self. Varela et al ask the question: “Is our body our self?”⁴⁹⁷ They initially make important points which support the Phenomenological-Enactive Minimal Self (PEMS). The body is the vantage point from where our senses respond to our continuous environmental coupling; the body is the focal point of our perceptions. All this agrees with PEMS, but then they ask: “Yet do we really think of the body as the same as the self?”⁴⁹⁸ And it is here that our disagreement begins to emerge. Varela and company give the answer: ‘yes and no.’ They ask what the cells in my body now, have in common with the cells in my body seven years ago. We can think of this as a question of change versus permanence. They view this as similar to the ship of Theseus story: if some parts are lost and replaced by other parts over time, does the ship still have the same identity? They argue that the self surely cannot be something which depends on our point of view. A self has to exist in its own right in that it has to have some type of ownership involved; we don’t normally speak of *having* a body, but instead refer to *our* body.⁴⁹⁹ They also point out that there are many types of microorganisms that can be found within our body – are we supposed to consider them as part of our bodily ownership as well?⁵⁰⁰ So the two main questions put forth regarding physical form are: (i) does the changeover of parts of our body over time constitute a self, and (ii) what of the different types of entities that make up those parts (other organisms)? One other point can be made regarding change, and that is change doesn’t have to be *in* the

⁴⁹⁵ Varela et al. The Embodied Mind. 64.

⁴⁹⁶ Varela et al. The Embodied Mind. *ibid*.

⁴⁹⁷ Varela et al. The Embodied Mind. 65.

⁴⁹⁸ Varela et al. The Embodied Mind. *ibid*.

⁴⁹⁹ Varela et al. The Embodied Mind. 66.

⁵⁰⁰ Varela et al. The Embodied Mind. *ibid*.

organism or thing (as the discussion so far has emphasized with the ship of Theseus and microorganisms), the change could be *outside* of it (i.e. the environment), or a combination of both, since the organism and environment are coupled in ways which mutually influence their structures. These examples of change are important to the discussion of *ipseity*, since PEMS argues for an ever changing self that maintains unity over time, whereas these issues could be used to support a splintered self view, or even a no-self view.

The second aggregate of the self is feelings and sensations. PEMS would agree with Varela et al. when they say that “[a]ll experiences have some kind of feeling tone,” but again they raise the issue of how [f]eelings change from moment to moment.”⁵⁰¹ This once again raises for them the problem of how some unifying identity can exist when the underlying feelings are always in a state of flux. They ask: “what/who is it, then, that feelings are affecting?”⁵⁰²

The third of the aggregates is perceptions and impulses which we can recognize or identify as distinct. They see these as having three root impulses (i) passion/desire (toward objects that are desirable), (ii) aggression/anger (toward undesirable objects), and (iii) delusion/ignoring (which relates to neutral objects).⁵⁰³ Their concern here is how these impulses – which lead to the beginnings of actions – have some over-arching ego behind them.

The fourth aggregate is dispositional formations. These are the “habitual patterns of thinking, feeling, perceiving, and acting.”⁵⁰⁴ They point out that our habits, motives, and traits can change over time – sometimes quite considerably. So again they ask where is the continuity coming from?

Finally, the fifth aggregate is consciousnesses (note the plural use of the term). This is “the mental experience that goes with the other four aggregates; technically it is the experience that comes from the contact of each sense organ with its object (together with the feeling, impulse, and habit that is aroused).”⁵⁰⁵ It is the aggregate which gives us our personal sense of there being an experiencer who experiences an object, the means by which they are bound together in some relation.⁵⁰⁶ Varela et al. are troubled by how the aggregates combine to form a self? Is it a totality of them, or an emergent property from the aggregates? How

⁵⁰¹ Varela et al. The Embodied Mind. 66.

⁵⁰² Varela et al. The Embodied Mind. *ibid*.

⁵⁰³ Varela et al. The Embodied Mind. 66-67.

⁵⁰⁴ Varela et al. The Embodied Mind. 67.

⁵⁰⁵ Varela et al. The Embodied Mind. 67.

⁵⁰⁶ Varela et al. The Embodied Mind. *ibid*.

does some kind of 'real' ego-self appear from these?⁵⁰⁷ In the end, Varela and company say: "We did not fail to find the physical body...Nor did we fail to locate our feelings or sensations...We found dispositions...the only thing we didn't find was a truly existing self or ego. But notice that we did find experience...we just simply could discern there no self, no 'I.'"⁵⁰⁸

The PEMS responds as follows. First of all, what the reader should notice is Varela et al.'s continuous concern with how a constant flux of feelings, sensations and perceptions seems to have no unity, or firm foundation, and then the way in which they make the comparison between this chaotic array and a single, unified, ego-type substance (what they called the naive view of the self). Varela and company conclude that when it comes to the self, that although they found a body, feelings, sensations, and dispositions, what they failed to find was a self.⁵⁰⁹ PEMS has tried to show that unity emerges *through* the flux. Let us revisit the five aggregates again and critique them.

1. (Physical or Material) Forms. How do we overcome the 'ship of Theseus' problem, that is, the problem of how change of material over time can still leave us with the same identity? Think back to our discussion in chapter 3 of Brian O'Shaughnessy and his idea of 'origin properties' that all organisms possess. This can assist us in understanding how an ever-changing organism can maintain stability and unity over time. The first of these origin properties is the 'changeless innate,' which is a particular feature of our body (i.e. fingers, toes, arms, and legs). These are features for all normal-born human beings from the time we are first being formed in the womb. Then there is the 'developmental-acquired,' which is the natural developmental change over time of parts of our body as we progress from infant to adulthood, to old-age (again, this is in regards to the growth and change of our fingers, arms, and legs). Lastly, we have the 'experience-acquired,' which has to do with our experience with a particular part of our body (think of how we might use our legs or arms differently as we decide to engage in a particular sport; or participate in a particular art form, such as painting or sculpture).⁵¹⁰ Between the three of these a sense of 'familiarity' emerges that allows us to say that this body is 'ours.' We should notice here that this is not the type of body that the ship of Theseus is dealing with; what we need is a

⁵⁰⁷ Varela et al. *The Embodied Mind*. 69-70.

⁵⁰⁸ Varela et al. *The Embodied Mind*. 79.

⁵⁰⁹ Varela et al. *The Embodied Mind*. *ibid*.

⁵¹⁰ O'Shaughnessy, Brian. "Proprioception and the Body Image." *The Body and the Self* Eds. Jose Luis Bermudez, Anthony Marcel, and Naomi Eilan. (MA:MIT, 1995), 193.

different sense of embodiment, we need a new way of looking at the body – an *owned* body, not an *un-owned* body – the body which we grow into is something which gives us that sense of ownership.

2. Feelings/Sensations. Is there a way to overcome the issue of feelings and sensations being fleeting and temporary? As we saw in chapter 6 with our look at Panksepp and LeDoux, affects can get laid down and form a type of pattern which can be recalled at a later time. Le Doux provided a neurobiological account of how this works and Panksepp provided us with a slightly different account based on his affective neuroscience. Both had argued that affects and sensations are triggered, moulded, and then continuously refined by our life experiences (based on something we've heard, touched, smelled, etc). As Panksepp had shown, raw affects rose from a variety of "emotional action systems that modulate the dynamics of our core selves."⁵¹¹ At their most basic, affective experiences attempt to maintain the homeostatic state of our body. So we need to remember that something like feelings are based in keeping the body stable, and in bodily action dynamics, they are not *merely* something mental, but *embodied* and *enactive*. Panksepp's seven 'primal affects' further explain how sensation and feeling play a role in self development. And as we saw with O'Shaughnessy, we begin with 'changeless-innate' elements of self, and then experience them as they progress through 'developmental-acquired' and 'experience-acquired.' So, the body may change, but within that change there is continuity as the changes continue to modulate and maintain a basic homeostasis.
3. Perception/Impulses. Varela et al spoke about three root impulses: passion/desire toward desirable objects, aggression/anger toward undesirable objects, and delusion/ignoring toward neutral objects. Again we see a similarity to Panksepp, this time to his seven primal emotional action dynamics. Panksepp focused on seeking, fear, rage, lust, care, panic, and play. All are based on an action dynamic and reaction or response to something in the environment. Varela and company thought there was no one (or ego, or self) that was performing these actions, yet Panksepp had shown in chapter 6 that a SELF (a Simple, Ego-type Life Form) can be based in a global neurodynamics. As he says, it is true that the "core feeling dynamics cannot cognitively reflect on themselves, but they may be experienced as cognitively unadulterated forms of pure affective livingness."⁵¹² We may lose touch with some of

⁵¹¹ Panksepp, Jaak. "On the Embodied Neural Nature of Core Emotional Affects." *Emotion Experience* Eds. Giovanna Colombetti and Evan Thompson. (UK:Imprint Academic, 2005), 158, 160.

⁵¹² Panksepp. "Nature of Core Emotional Affects." 179.

them over time, yet they still “may become part of our dynamic subconscious,” and “those ancient aspects of mental life probably continue to influence our emotional experiences from birth to death.”⁵¹³ So what seems like a constant change and chaotic flux with no foundation or unity may in fact possess a foundation and unity, it is just in many cases a pre-reflective or subconscious feeling that gives us that ‘givenness’ or ‘mineness.’

4. Dispositional Formations. Varela et al were worried about where the sense of continuity came from for our habits or patterns of thinking, feeling, perceiving, and acting. As we’ve been seeing as we’ve been making our way through these aggregates, PEMS has been emphasizing that in spite of this apparent flux in material form, feelings, and impulses, there is still bodily homeostasis and global neurodynamics which underlie, maintain and develop the organism as a whole. So although there is change, there is not complete turnover, there are certain stable elements of development. If we are going to consider habitual patterns of thinking and acting, then there is a minimal bodily basis, and depending how far up the scale we want to go with ‘patterns of thinking,’ then we can even move into a narrative level of self, which can lay down a reflective autobiographical pattern of thought, but again, this has its basis in the PEMS.
5. Consciousnesses. For a discussion of this, the reader is urged to revisit the discussion of chapter 10, when we explored dual process theories of consciousness and the nested neural hierarchy theory. Dual process theories showed that a basic consciousness underlays our existence, providing us with our most core or ancestral reactions and thoughts, and how this level could then influence a second, more reflective and evolutionarily recent level. The nested neural hierarchy showed further how these levels could be related and modulate each other. These nested systems, then, are always interacting and modulating each other, laying down new experiences and burrowing them away so that they can be drawn upon again later if necessary. From this process the PEMS can develop and continue to work with the narrative self (the ‘real’ ego). But underlying the narrative self (which we might even call the ‘Person’), there is the basic experiential awareness, which doesn’t stand *outside* the experiences, but *is* the experiences as they are happening and being laid down. The stream of consciousness is constantly creating, developing and maintaining a sense of self, which *is* the self.

⁵¹³ Panksepp. "Nature of Core Emotional Affects." *ibid.*

The PEMS is the bodily dispositions and affects in dynamic modulation with both each other and the environment creating the subjectivity of experience. Put another way, these enactive processes create and give rise through the dynamic modulation between brain, body and world, the underlying first-personal *mineness* or *givenness* to our experiences. This is the PEMS.

Recently Evan Thompson has revisited the idea of the self on his own and asked the following question: “Does self-awareness imply the existence of a self?”⁵¹⁴ His answer is ‘yes,’ but a qualified one. Looking at a phenomenological account, he points out that “the subject (or subjectivity) of experience is precisely the selfhood (*ipseity*) of time-consciousness – the pre-reflective self-awareness of the stream of consciousness as a stream, including the automatic givenness of the past experience.”⁵¹⁵ After presenting the phenomenological perspective, he follows up with: “this phenomenological notion of selfhood is far from the notion of self as an enduring entity distinct from the flow of mental and physical events.”⁵¹⁶ This is an important point to make. We saw with our look at Varela and company’s understanding of self, that they were reacting against the self conceived as some standalone unity (according to the ‘naive’ view); their proposal was to say that when you looked at the stream of experience (through emotions, perceptions, etc) that there was no self. But now, a little further in time, Thompson is acknowledging that a phenomenological account of selfhood includes a ‘pre-reflective self-awareness’ and ‘automatic givenness.’

Thompson (with Aaron Henry) has gone even further in a direction that is strongly PEMS-friendly by emphasizing a bodily subject *as* self. Thompson and Henry say:

“[I]n order to be a subject of experience...one must be prereflectively aware of oneself as a living body, i.e., one must be a bodily subject...this ability presupposes a more fundamental and distinctly subjective awareness of the living body as the locus of perspectival awareness. [Consequently] merely being a subject of experience involves a basic sense of self.”⁵¹⁷

⁵¹⁴ Thompson, Evan. “Self-No-Self? Memory and Reflexive Awareness.” Mark Siderits, Evan Thompson, and Dan Zahavi (Eds). Self, No Self? Perspectives from Analytical, Phenomenological, & Indian Traditions. (UK: Oxford, 2011), 157.

⁵¹⁵ Thompson. “Self-No-Self?” 169 (emphasis original).

⁵¹⁶ Thompson. “Self-No-Self?” *ibid*.

⁵¹⁷ Henry, Aaron, Evan Thompson. “Witnessing from Here: Self-Awareness from a Bodily versus Embodied Perspective.” Shaun Gallagher (Ed). The Oxford Handbook of the Self. (UK: Oxford, 2011), 247.

What we end up with, then, from the proposal that Varela, Thompson, and Rosch promoted in 1991, has, by Thompson's account in 2011 come round to a view that would fit well with the basic ideas of a PEMS account of minimal selfhood.

The Phenomenological-Enactive Minimal Self says that there is a *for-me-ness* or *mineness* to our experience. This *subjectivity* of experience *is* the minimal self. The minimal self is bodily based. It is the experience of our embodied encounters in the world, our encounters with others, and our affects (emotions, feelings and moods). We have seen in this project that although we go through a multitude of experiences, and although we have autobiographical and narrative elements to our self, that these changing experiences still possess a dimension of personal, perspectival givenness. The PEMS view has much in common with the phenomenological view of self that Dan Zahavi has put forth. He has also stated that:

“[T]here is no pure experience-independent self. The self is the very subjectivity of experience...the experiences in question are world-directed experiences [and they] involve self-presence [...] I experience myself in what I do...the self is what it is in its worldly relations, self-acquaintance is not something that takes place or occurs in separation from our living in a world. On the contrary, self-experience is the self-experience of a world-immersed self.”⁵¹⁸

What we have done with the PEMS view is take a Zahavi-like phenomenological account of the self, and bolstered – or strengthened – it with support from enactivism (e.g. Thompson and Gallagher), affective neuroscience (e.g. Panksepp), developmental psychology (e.g. Stern), bodily kinetics (e.g. Sheets-Johnstone), and other areas of research which reflect the importance of the body and affects in the development of who we are. Zahavi has put forth a phenomenological account which PEMS would largely agree with, the difference is that with the PEMS account, we have given an account of the structures which *produce* and *maintain* this phenomenological self. The scientific data we've looked at have provided the structures of minimal selfhood. Enactivism has provided the framework in which to understand how these structures relate and interact. And the phenomenological experience is the end point or result of what the enactive processes create.

This project focused on the minimal conditions for selfhood. To understand the self at a fuller, more robust level, we need to take into account other things as well. This includes the autobiographical/narrative/language-based components of self which begin to emerge while

⁵¹⁸ Zahavi, Dan. “Unity of Consciousness and the Problem of the Self.” Shaun Gallagher (Ed). The Oxford Handbook of The Self. (UK: Oxford, 2011), 328.

we are in our infancy (at around age 3). As Zahavi says, “we are more than experiential core selves, we are, for instance, also narratively configured and socially constructed persons.”⁵¹⁹ It is this full and robust conception of the self which we might also refer to as a ‘person.’ But before we have reached or acquired full personhood status, there is the bodily and affective self which lies in the background and lays the foundation for it. This project, by bringing in these different insights from various areas of science and philosophy, has attempted to show us something new about our self which we had not noticed or paid attention to before. The PEMS approach shows us the embryonic stage of *ipseity*, and can perhaps give us a new perspective and approach in exploring other areas of philosophy and science. I present the following (abbreviated) topics as possible avenues for future exploration utilizing the PEMS approach.

- *Metaphysical debates in Personal Identity.* PEMS can be applied in the metaphysical debates into what we are most fundamentally. In recent debates in personal identity, there has been disagreement between the ‘animalist’ position and the ‘constitution view’ (where the animalist advocate states that we are fundamentally *just* a human animal without any need for psychology for fixing personal identity (or psychological continuity), or, as the constitution view states, we are a human person with a psychological first-person perspective that is *constituted* by an animal body).⁵²⁰ A PEMS approach can provide this debate with a potential resolution by showing how psychology emerges from – and is a part of – our embodied/affective makeup in a way which can alleviate the problems the two views see in each other.
- *Philosophy of Mind discussion of whether there is/is not a self, and/or what role narrative might play.* PEMS can – as we have seen with our brief look at Dennett and Metzinger in this chapter – give us a new way to examine and understand narrative or no-self views of the self by re-examining our biology and psychology and how we connect with the world.
- *Clinical implications.* PEMS might have clinical applications. Through PEMS we could potentially have new clinical ways to examine cases of (for example) dissociative identity disorder, depression, autism, and schizophrenia, by providing the examiner with a different and new approach to understanding the self, its place in the world,

⁵¹⁹ Zahavi, Dan. “The Experiential Self: Objections and Clarifications.” Mark Siderits, Evan Thompson, and Dan Zahavi (Eds). Self, No Self? Perspectives from Analytical, Phenomenological, & Indian Traditions. (UK: Oxford, 2011), 74 n6.

⁵²⁰ For details on this, see Olson (1997) for the animalist position, and Rudder-Baker (1995) for the constitution view.

and how it encounters the world as meaningful or meaningless through the PEMS emphasis on bodily and affective phenomenology.

- *Ethical implications.* PEMS also has potential ethical applications. Consider the abortion debate. Some want to give an unborn foetus the status of personhood, or they at least argue that it has the *potential* for personhood. Although PEMS would deny *actual* personhood to a foetus, there is the possibility that *minimal* selfhood can be given to it anywhere from the 16th to the 24th week of its time in the womb. This first stage of selfhood (with the autobiographical/narrative self in this case being the second stage), may have potential for enriching that discussion.

Part III: Conclusion

“Although we experience ourselves as things, as fixed entities occupying a physical space in the world, we are in reality a process, a continuous unfolding in time, constantly becoming.”⁵²¹

The Phenomenological-Enactive Minimal Self argues that there is a minimal kinaesthetic self which begins to emerge at a time when we are still within the womb via the limited motility it has in its enclosed environment. During the first few months after birth the elements of this minimal self are further established through interaction with objects and others. The PEMS also has an evolutionary basis and connection with other mammals and animals, not only under a ‘thinking in movement’ paradigm, but also when it comes to affects (feelings, moods, and emotions). The studies examined in this project showed that movement and affective experiences are primary and basic experiences that help mould us in our development early and continue to be a part of us in the years ahead. It was shown that this minimal kinaesthetic self is based on enactive ideas of autonomous agents generating and maintaining their own identities. In spite of change and flux, there is nevertheless a unity which emerges; this unity is reflected in our consistency of movement and our consistency of behaviour and affective response to situations which we encounter; through this identity generation and maintenance via corporeal-kinetics, consistent elements of what makes us the self we are, are created and maintained.

This is obviously not the end point for what is our self, but it is a starting point – and more than that – it is a continuing influence on us until our final moments. A narrative Self is an idea that is frequently spoken about in the literature on the self; the PEMS view does not discount that and the role that this narration might play, it is only showing that there is a priority here in what lay at its base, and this is bodily-kinetic in origin. A significant amount of research has been done in areas of ‘narrative constructions’ of self, and when it comes to self, consciousness, and affects, the priority of some type of ‘information processing’ going on that emphasizes cognitive appraisals which can be found in such a computational theory of mind. This project should hopefully have shown that there is an alternative to that view which is more appealing and fits better with the data gathered from a variety of sources, from developmental psychology to neuroscience. Theories of self have been far too reductionistic

⁵²¹ Feinberg. From Axons to Identity. 210.

in their approach to what makes us who we are; this study has tried to show that we need to take a broader and larger perspective. The self may be a single thing – who we are – but this single thing is made up of an incredibly large assortment of encounters and influences. It begins with movement, interaction, intentionality and affects, and later includes narratives and stories which we tell about ourselves which we've gathered from societal influences (our family, friends, colleagues, religion, politics, society, and the world). It has been the purpose of this project to establish that there is a minimal self based in kinaesthesia, a self which is always changing while it is establishing something consistent and unified.

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