CHAPTER ONE: TOWARDS A THINKING BODY

This chapter draws on three key theoretical and praxis-based disciplines in order to create the framework in which to interrogate the notion of Physical Intelligence. Through gathering this scholarship I seek to reconfigure a perception of the body beyond the limitations of Cartesian dualism. By drawing on the three key areas of phenomenology, somatic bodywork and the neurobiological research of Damasio (with additional support from other sources) to support the claim of an integrated Physical Intelligence as demonstrated in the practice of Physical Theatre, I will be putting in place the primary building block on which to construct the argument for the body as archive. This chapter thus becomes an integral part of the theoretical investigation that will be used to support, augment and dialogue with the research emerging out of *Coming To* in the last chapter.

Physical Theatre and the Mind/Body Dilemma

> At its simplest, physical-theatre is theatre where the primary means of creation occurs through the body rather than through the mind. In other words, the somatic impulse is privileged over the cerebral in the making process…The intellectual is grasped through the physical engagement of the body because, as Lecoq puts it, 'the body knows things about which the mind is ignorant' (Callery 2001: 4).

The sheer range of work that falls under the umbrella-term, Physical Theatre, renders it virtually 'undefinable'. Although Callery believes that Physical Theatre is not 'codifiable' (2001:5) it's in the above quotation that she captures the definitive working principle of the practice: the centrality and primacy of the body in both the creation process and performance. Callery argues that it is through somatic play and exploration that the material, which is eventually shaped into theatrical content, emerges. Her positioning of the body as the primary means through which Physical Theatre is created is significant in validating the need for a theoretical frame that can exceed the limitations of Cartesian models, which have influenced dance and theatre

scholarship. Callery specifies that it is *through* the body that the 'intellectual' is grasped, which demonstrates that an investigation into this theatrical form needs to be based on the concept of mind-body integration.

A fundamental paradox is however contained within Callery's quotation noted above. While the evocation of Lecoq's maxim that 'the body know things about which the mind is ignorant', draws our attention back to the roots of Physical Theatre, reminding us that 'for decades practitioners have acknowledged the primacy of the body in performance' (Marshall 2007:159), this maxim, alongside Callery's statement more broadly, also asserts a distinction between mind and body.

This distinction lies at the heart of the paradox because it is through the body that the physical, vocal, intellectual, emotional, and imaginative resources of the performer are accessed within the creative process. The primacy of the body in Physical Theatre essentially refutes and disrupts the inferior positioning of the body within Cartesian dualism. However, as Chamberlain puts it, 'the opposition of mind and body [in Callery's quote] *replicates a Cartesian dualism* which regularly haunts the use of the term 'physical'' (Chamberlain 2007:121 Emphasis mine).

The mind-body split, referred to as Cartesian dualism, has played a fundamental role in shaping a particular mode of Western thinking about the body roughly from the second half of the Twentieth Century. As Marshall argues, this dualistic thinking, with its negative implications for the body, was entrenched in Western culture well before Descartes and is 'derived from Early Christianity (although it had its roots in the ideas of Plato[1])' (Marshall 2007:161).

[1] Platonian dualism is often referred to as Classical dualism and denotes Plato's positing of 'permanent forms' such as ideas (associated with the mind) as superior to sense knowledge (associated with the body) (Fraleigh 1987:10).

> In this model, the body and the soul/mind were seen as distinctly separate, and actively opposed. The 'higher functions' of thought, imagination and conscience resided in the soul/mind, while the body was seen as inherently sinful, inferior and brutish, and operated as an active impediment to the soul/mind's development… This concept was reinvented by Descartes during the Enlightenment; he re-formed the religious dimension of the soul/mind, but kept the idea of the body's innate inferiority, and its problematic nature. And this sense of the fundamental inferiority and untrustworthiness of the body still permeates our society, manifesting in many different ways (Marshall 2007:161).

The way in which this dualism has privileged rationality (as associated with the mind) over physical drives and 'spirituality over the material, the objective over the subjective' (McNay 1992:12), has therefore erased the view of the body as a psychophysical entity, relegating it to a status below the soul, mind, or spirit (Fraleigh 1987:9) and diminished it to the status of object, or machine, under the command of the mind (Zarilli 2006:48).

The paradox within Callery's statement is indicative of the subtle pervasiveness of Cartesian thinking. While she and Le Coq, alongside many other theatre and Physical Theatre practitioners[2] actively disrupt the Cartesian perception of the body, by foregrounding the role of the body in the practice, they nonetheless simultaneously further entrench the split between mind and body, which lies at the centre of Cartesian dualism, thereby placing the body and mind in a binary relationship.

The paradox in the endeavour to address the inferior perception of the body however doesn't and shouldn't undermine the idea of mind-body integration since the practice of Physical Theatre itself refutes such a binary relationship. The actual fundamental

[2] Claire Heggen, co-founder of the Théâtre du Movement, provides another example of the subtle ways in which the dualism is reinforced when she states: 'The body always has ways of escaping the nets of our mind' (McCaw 2007:13).

workings of Physical Theatre are indeed based on the integration of body and mind. Zarilli's concept of the 'aesthetic body' supports this claim of mind-body integration. He states that performers develop an 'aesthetic body' through years of psychophysically[3] oriented training. Such a training is typical of Physical Theatre preparation methods. He terms it an 'aesthetic body' as it is:

> Non-ordinary, takes place over time, and allows for a shift in one's experience of the 'body' and 'mind' aspects from their gross separation…to a much subtler dialectical engagement of body-in-mind and mind-in-body (Zarilli 2006:55).

While Zarilli implies that it is largely through training in psychophysical methods that the performer gains an experience of body-mind integration, other theorist-practitioners such as Marshall would argue that such integration is integral to our state of being. She states: 'The common use of the two words 'mind' and 'body'…reflects a false perception; in reality the organism is already a single physical/electrical/chemical unit (Marshall 2007:163). While I would agree with Marshall, I believe that Zarilli draws our attention to the way in which performers in particular, through the experience of psychophysical training methods, develop a *refined* or *heightened awareness of mind-in-body and body-in-mind*. The necessity for such training speaks to the way in which the practice of Physical Theatre is based on a subtler dialectic between body and mind.

Body-mind integration has been affirmed by many other practitioners and theorists as central to the work of Physical Theatre. As mentioned earlier, Physical Theatre's lineage emerges partly through the pioneering work of Grotowski, who conceived of the relationship between impulse and action as fundamental in his actor-training

[3] Zarilli defines psychophysical practices or training regimes as 'embodied practice that engage the physical body and attention (mind) in cultivating and attuning both to subtle levels of experience and awareness' (Zarilli 2006:55). He cites yoga, the martial arts, acting/performing *per se* as examples of psychophysical practices.

method. Grotowski acknowledges the complexity of the somatic impulse when he states:

> Before a small physical action there is an impulse. Therein lies the secret of something very difficult to grasp, because the impulse is a reaction that begins inside the body and which is visible only when it has already become a small action. The impulse is so complex that one cannot say that it is only of the corporeal domain (Grotowski cited in Richards 1995:94).

In opening up the possibility of the impulse exceeding the corporeal domain, it could be argued that Grotowski alludes to the impulse as embedded in and emerging from a complex, integrated and interrelated nexus of what we have previously considered separately as mind and body.

The fact that Physical Theatre is a practice based on the integration of body and mind means that we require a theoretical framework that must be able to support this. Because of the pervasiveness of Cartesian thinking and the resultant tendency to place body and mind within a binary relationship, it is important to draw on scholarship that reconfigures a dualistic understanding of mind and body. Such a theoretical framework must be able to support the notion of body-mind integration, which is in my view the cornerstone of Physical Theatre processes. In order to investigate the way in which improvisations within these processes 'unleash fragments of memory' (Finestone-Praeg 2001:118), or the way that these improvisations engage personal archives in the generation of material, we have to create a framework that refutes a Cartesian bias and its implied understandings of body and mind. In reconfiguring of our compartmentalised understanding of body and mind such a framework also needs to revise how we understand the processes of thinking and remembering. It would thus need to address the notions of 'thinking', 'intelligence' and 'memory' as embodied activities and concepts.

Reconfiguring body/mind/body-mind/mind-body

Phenomenology and the *Lived Body*:

Existential phenomenology, as developed by Maurice-Merleau-Ponty and Jean-Paul Sartre, essentially emerged as a revolt against the dualistic tendencies of traditional western philosophy (Fraleigh 1991:11). Merleau-Ponty's rejection of Cartesian dualism through an assertion that 'the body and psyche are inextricably connected' (Thomas 2003:29) and that 'mind…is always embodied, always based on corporeal and sensory relations' (Grosz 1994:86) becomes the primary building block for this theoretical frame.

In essence Merleau-Ponty's philosophical approach maintained that:

> human beings are embodied subjectivities and any analysis of the relation of the self to the world has to begin from the fundamental fact that we are embodied. The body is not simply a house for the mind, rather it is through our lived experience of our bodies that we perceive of, are informed by and interact with the world (Thomas 2003:29).

Through his philosophy Merleau-Ponty tried to 're-establish the roots of the mind in its body and in its world' (Merleau-Ponty 1963:3-4) and in this way he 're-claimed the centrality of the body and embodied experience as the locus for experience as it is lived in a deepening awareness' (Zarilli 2006:48). It is particularly Existential Phenomenology's development of the notion of the *lived body,* or the body as an experienced phenomenon, which is key in constructing a non-dualistic framework for this investigation.

Fraleigh suggests that 'part of the problem of dualism' is exacerbated by how we refer to 'the body' in modern language. While French and German, for instance, have different words to differentiate the lived experience of the body from the body as a physical entity, the English language only has one word for 'body'. In German

Körper denotes a physical object, while *Leib* refers to the body as it is lived and experienced. *Lived body* and *lived experience* are therefore the English terms developed by phenomenologists to 'overcome the subject-object dichotomy' (Fraleigh 1987:10). The *lived body,* through its attack on the 'primacy of the mind' in Descartes's *cogito ergo sum* (I think, therefore I am), is essentially a body 'in action' (Fraleigh 1987:8). This asserts the body as active in the way we inhabit and make meaning of the world around us and departs from Descartes's *cogito,* which assumes the body as a passive object that relies on the faculties of the mind and judgement to create meaning out of our existence in the world. It furthermore cuts beneath the 'subject/object (mind/body) split in Western attitudes toward the body' (Fraleigh 1991:13).

The *lived body* concept, proposes that 'body, movement, self, and agency are ultimately not separable entities' (Fraleigh 1987:13). It therefore seems a wholly appropriate concept to include in a framework that allows for the interrogation of a Physical Theatre process, since at the implicit level of this praxis body, mind, emotions, intellect and memory are not perceived as separate or separable entities.

Its relevance within this investigation is further reiterated through the parallel manner in which both the *lived body* concept and Physical Theatre praxis 'reject instrumental definitions of the body' (Fraleigh 1987:8). Physical Theatre notably counters the language of much dance scholarship and practice; which refers to the body as *an instrument*, serving the will of the mind, the choreographer and the conceptual intention while Existential Phenomenology asserts that 'the body cannot be an instrument like other instruments, that it cannot be reduced to *an object…*' (Ibid).

Somatics and the *soma*

Phenomenology's concept of the *lived body* resonates with the concept of the *soma* in the field of somatics, as developed by Thomas Hanna in the 1970s. Hanna is a vital link in following a trajectory of investigating the *lived body* from an abstract concept into its practical applications in somatic body work and theatre practice. As a philosopher Hanna was grounded in Existential Phenomenology. His writings and his work as a somatic educator form the philosophical basis upon which many currently practiced somatic bodywork modalities have developed their working principles (Eddy 2002:47).

Hanna defined somatics as a 'field of study dealing with somatic phenomena: i.e the human being as experienced by himself from the inside' (Hanna n.d).
There are clear correlations between Hanna's understanding of 'body' as an objective entity or as the human being as perceived from the outside, and phenomenology's use of the German word 'Körper'. Similarly his understanding of the *soma* as the body perceived from within resonates with phenomenology's notion of the *lived body* or 'Leib*'.* For Hanna the distinction between the two is a matter of a shift in the viewpoint of our perceptions. If we rely on a third-person viewpoint, we perceive a human body. However, if we employ a first person viewpoint drawing on our proprioception[4] (i.e. perceiving or experiencing the body from within), we perceive the *soma*[5]. The *soma,* in Hanna's view*,* is a self-aware and self-regulating entity in which 'mind and body [are] an indissoluble functional entity' (Ibid). Therefore, just as the *lived body* concept conceives of the body as a 'body of action', somatics too rejects the passivity of the body implied by Descartes's *Cogito ergo sum,* through

[4] Proprioception refers to how we 'sense ourselves' (Steinman 1986:11). According to Steinman, the proprioceptive information we gain derives from *kinaesthesia*, or the feeling of movement from our musculo-skeletal system, *visceral feedback* and *labyrinthine/vestibular* feedback which we get from the inner ear and gives us a sense of our spatiality (Ibid:11).
[5] The *soma,* as first person perception from within, resonates with the state of body-in-mind and mind-in-body within psychophysical training methods previously mentioned. These will be discussed in greater depth in Chapter Three.

emphasis on the *soma* which is not just passively self-aware, but which is 'acting upon itself' (Ibid). Hanna claims that the *soma* is 'always engaged in a process of self-regulation'[6] (Ibid). Somatics shares phenomenology's rejection of Cartesian dualism through its positioning of the *soma* as an active entity operating through an integration of mind and body.

Somatic Bodywork: BMC approach

A practical application of the abstract notions of the *lived* body and the *soma,* can be found in somatic bodywork practices. Since the field of somatic bodywork is very large, with many different modalities, I will focus on one particular approach: Bonnie Bainbridge Cohen's *Body-Mind-Centering* (BMC) approach. Bainbridge Cohen developed BMC through her experiences as both a dancer/choreographer and as an occupational therapist. BMC is thus founded on both experiential praxis and scholarly investigation, which as a form of *praxis* itself, resonates with this research. BMC offers the perspective of the integral connectedness of body and mind. According to Linda Hartley, a BMC practitioner, if one 'experiences the body from within' it is clear that body and mind are integrally connected aspects of a greater whole (Hartley 1995:xxv). The focus on the experience of the body 'from within' draws on the notion of the *soma* and locates BMC as a somatic bodywork practice.

As a therapeutic modality BMC employs Developmental Movement Therapy[7] (DMT) as an observational framework and diagnostic tool (Hartley 1995:90,98), and uses touch to repattern movement and to work on the tissues of the body to effect change on a psychophysical level (Ibid:xxviii). The premise behind this approach is that:

[6] This self-regulation in which the soma 'acts upon itself' is integral in my argument about the archive as a construct in a constant state of 'becoming' in Chapter Two.

[7] DMT focuses on the re-education of human developmental movement patterns that mirror and support our development and growth in the first two years of our lives. Many bodywork practices such as Bartenieff Fundamentals, Feldenkrais' Awareness through Movement and the Alexander technique, use developmental movement re-education as a cornerstone of their work (Steinman 1986:12).

> Healing or change in the body-mind can be effected by working directly on the body tissues and movement patterns to influence the mind or by working consciously with the mind to affect physical conditions (Hartley 1995:xxx).

It is BMC's conviction that the body's movement reflects the 'process[es] of the mind' (Ibid:xxiv), through their mutual interrelatedness, that makes the connection between the *lived body*, or *soma* as a concept of mind-body integration and the concept as it manifests in the moving body.

While BMC remains a 'subjugated knowledge' system in the eyes of the academy, as it falls outside of the logocentric rationality that defines much mainstream scholarship, its principle that the movement of the body reflects the process of the mind, is nonetheless reflected in and supported by other paradigms within the academy.

Even early accounts of classical psychoanalysis, which has come to be seen as the 'talking cure', recognize the importance of the body and its movement in the psychotherapeutic process (Phelan 1996:90 - 100). Dance/Movement Therapy too, as a psychotherapeutic paradigm that straddles both mainstream academic scholarship (through its psychoanalytic roots) and somatic bodywork modalities (through its roots in dance practice), makes explicit the interconnectedness of body and mind. It overtly engages the mind through the body as it 'employs a different property, motility, as the means for reaching its goal' (Siegel 1984:7).

The research of the neurobiologist Antonio Damasio (1994), and the biopharmacologist Candace Pert (1997), further contribute to our attempt to view the relationship of mind and body differently. Damasio states:

> I am not saying that the mind is in the body, I am saying that the body contributes more than life support and modulatory effects to the brain. It contributes a content

that is *part and parcel of the workings of the normal mind* (Damasio 1994: 226 Emphasis mine).

Pert's research, particularly her discoveries about neuropeptides[8], support the working principles of BMC which assert that 'any thought, feeling, or perception moving through our conscious or unconscious awareness affects our body-mind experience (Hartley 1995:xxvii). Pert claims that 'the more we know about neuropeptides the harder it is to think in the traditional terms of a mind and a body. It makes more sense to speak of a single integrated entity, a "body-mind" (Ibid: xxviii).

Through the concepts of the *lived body* and the *soma* which argue for a self-aware, self-regulating, and active entity we are able to re-configure the binary opposition of body and mind and in so doing we are able to free the body from its passive, inferior status and its positioning as a manipulable object under the control of the mind. Instead we are able to conceive of the body and mind as inseparable aspects of a greater whole, whose processes of thought, feeling, emotion and perception are fundamentally integrated. The interconnectedness of mind and body that is asserted through these concepts means also that the movements of the body reflect the processes of this integrated body-mind nexus.

Towards Physical Intelligence

The disruption of the Cartesian split in the section above calls for the dissolution of a conventional conception of 'thinking' and 'remembering' as processes of the 'mind'. Performance practice, particularly in the realm of devised work, which is embedded in the engagement of the body-mind of the performer, challenges these conventional

[8] Pert claims that neuropeptides are the chemical messengers and biochemical mass of emotions that link the brain, immune system and endocrine system (Hartley 1995:xxvi). In other words these neuropeptides are the 'physiological correlates of our emotions and mood states' (Grassman and Pohlenz-Michel 2007:4). Her theory on neuropeptides asserts that these 'biochemical molecules…link what we have historically called consciousness, mind and body' (Fraleigh 2004:65).

conceptions through the embodied thinking of the performer and the embodied engagement of memory. Hartley reminds us that performance relies on the embodied reality of the integration of body and mind that I have argued towards. She states: 'Recent research is suggesting what the bodyworker and the intuitive mover know by experience: mental functions, emotions, and bodily processes are not separate…(Hartley 1995:xxviii). This section thus seeks to reconfigure the process of thinking as an embodied activity in a way that supports the experience of performance practice.

Fraleigh, writing at the intersection of Phenomenology and her own dance practice makes the following claim:

> Our body thinks, and it thinks as it moves. In other words, our moving, living body is intelligent, and our thinking arises through material physical sources as surely as it may seem to move beyond them. When we trust our innate intelligence, it speaks, or brings us images and feelings in unpredictable ways (Fraleigh 2000:57).

Through this claim Fraleigh radically shifts perceptions attached to the mechanistic view of Cartesian dualism in that she removes the 'higher faculty' of thinking from its traditional seat of the 'mind'. The way in which she speaks of 'trusting' this 'innate intelligence' to 'speak' or 'bring us images and feelings in unpredictable ways' resonates strongly with the idea of the thinking body as the centre of Physical Theatre practice; since it is through improvisations, which rely on the body trained in psychophysical training methods, that the 'images' and 'feelings' which emerge as impulses are translated into movement.

The notion of the thinking body or bodily intelligence is supported by the working principles of BMC which focus on 'the process of awakening awareness at the cellular level to contact the innate intelligence of the body' (Hartley 1995:xxx). This notion of an innate intelligence is further supported by somatics when it describes the *soma* as more than self-aware, but constantly engaged in a process of self-

regulation. This innate intelligence is reflected in the way it is able to communicate and feedback, via the proprioceptive centres, 'the process of the ongoing unified soma' (Hanna n.d).

Furthermore we can find support for the notion of the intelligence of the body in the field of psychology through the work of Gardner. This intelligence of the body that both Fraleigh and Hartley refer to is validated within Gardner's' theory of Multiple Intelligence (M.I theory). Gardner's model 'makes the case for the existence of multiple intelligences' (Gardner 1993:9), thus unsettling the long-held view of intelligence as that which reflects our logic-based mental capacities housed in the brain. M.I theory accounts for eight different kinds of intelligences that refer to our capacity for problem solving and that are valid across different cultural contexts. Bodily/kinaesthetic intelligence is one of these models, and although its technical description, that which speaks of 'being able to use one's body in highly differentiated and skilled ways' and the capacity to handle objects (Ibid:207), is fairly limiting for the purposes of this argument, it nonetheless disrupts the notion of intelligence as something that resides only in the organ of the brain and which is removed from our embodied beings. The argument towards multiple intelligences also disrupts the prevailing dominance of the logic-based intelligences.

The way in which M.I theory 'seeks to underscore the extent to which ways of knowing – forms of knowledge - are present in virtually every realm of human existence' (Ibid:287) is useful in validating bodily intelligence as a mode of embodied thinking. In Gardner's view, dance (and by extension here Physical Theatre as an embodied activity) 'far from being divorced from cognition…involve[s] highly developed forms of cognition' (Ibid:287). Gardner thereby opens up the space for the consideration of the embodied roots of cognition, particularly within creative practices which function through the primacy of the body. While cognition can be defined as

the process of knowing, it is its alternative definition as the faculty through which the human being processes information that I refer to here. Since the processing of information can further be understood as a mode of thinking, Gardner opens up the space for the interrogation of thinking as an embodied activity. While psychological research stresses 'a close link between the use of the body and the development of other cognitive processes' (Gardner 1993:208), I am proposing a relationship between the body and cognitive processes that is more integrated than the word 'link' implies. I would propose to conceive of cognition, or thinking, *as* a somatic or embodied process, therefore acknowledging the body as implicit in the act of thinking and cognition.

Perception

I would like to focus my conception of thinking as an embodied process through a consideration of the process of 'perception'. I continue to draw on phenomenology, somatics, as well as the research of Damasio to facilitate this discussion. This section forms an essential building block in the construction of the broader argument about the body as archive. The centrality of perception within psychophysical training methods and within improvisation will also be developed in the next two chapters. Discussing perception as the means through which the body 'thinks' will therefore be crucial in the interrogation of the functioning of Physical Intelligence within Physical Theatre processes.

Existential phenomenology claims that it is through the sensory perceptions of the *lived body* that we make sense of and engage with our world. In readdressing the neglect of the body within philosophy, and one could argue in direct response to Descartes's assertion of the unreliability of the senses which depend on the faculties

of the mind to create meaning, Merleau-Ponty claimed the 'primacy of perception'[9] as fundamental within the *lived experience* (Reynolds 2005).

Grosz views Merleau-Ponty's focus on perception as his attempt to destabilise 'the structure of binary oppositions dominating so much of Western thought' since perception takes up 'the space in between, the "no-man's land" or gulf separating oppositional terms' (Grosz 1994:93-94).

> Perception is, as it were, midway between mind and body and requires the functioning of both. Neither empiricism nor idealism, neither pure physiology nor pure psychology, have been able to produce terms to adequately account for the complex interactions and implications involved in perceptual processes (Ibid: 94).

Perceptual processes thus reveal the interrelatedness of body-mind unity in action. Merleau-Ponty further asserted that it is impossible to separate the body-subject in action from the perceiving body-subject 'since it is precisely through the body that we have access to the world' (Reynolds 2005). Perception is what the *lived body* intrinsically does. The *lived body* is a perceptive body, but this is a body in action because for Merleau-Ponty the two are interconnected (Ibid).

Somatics takes up phenomenology's connection between perception and action but distils this connection further to focus on the relationship between sensing and moving. Hanna states that:

> reciprocity between sensing and moving is at the heart of the somatic process…We cannot sense without acting, and we cannot act without sensing. This indissoluble unity is essential to the somatic process of self-regulation…(Hanna n.d).

[9] It is important to note that although Merleau-Ponty engaged with perception as a central tenet to disrupt the idea of the body as object in his earlier works (*Phenomenology of Perception* (1963), and *Primacy of Perception* (1964)), he nonetheless eventually rejected it as a term entirely as it assumed yet another split.

Hanna believes that the 'sensorium [all the faculties of perception available to the soma] never operates alone but always in tandem with the motorium' (ibid). In a sense then this 'sensory-motor system' creates a 'closed-loop feedback system' that is at the heart of the somatic process of self-regulation (Ibid). This fundamental interconnectedness of sensing and moving is greatly significant in the argument that develops in the next two chapters as we explore the connection between the perception of the archive and its translation into movement.

Interestingly, these philosophical perspectives on perception find further reinforcement through the neurobiological research of Damasio. He asserts the fundamental importance of perception to the survival of the human being as it is through our being able to sense the environment that we gather all that we need for our physical survival and avoid danger (Damasio 1994:225). Damasio claims that this ability to perceive the environment is so important that the human organism constantly 'modifies itself so that the interfacing [the act of perception] can take place as well as possible' (Ibid). Such modification seems to resonate with the concept of self-regulation in somatics and speaks to the notion of perception as truly active on a physiological level.

Damasio argues that the human organism developed an efficient mechanism to further ensure the survival of the body-proper. This mechanism involved

> *representing the outside world in terms of the modifications it causes in the body proper,* that is representing the environment by modifying the primordial representations[10] of the body proper whenever an interaction between organism and environment takes place (Damasio 1994: 230 Original emphasis).

[10] Damasio's primordial representations are threefold: firstly the representations of biochemical regulation, secondly the representation of the viscera and thirdly the representation of the musculoskeletal frame and its potential movement (Damasio 1994:230).

These primordial representations are essentially a map or a record of neural circuits, located in different parts of the brain, that reflect changes that have occurred in the body-proper (Ibid:230). In essence then Damasio claims that the outside world is reflected internally through a record of the ways in which the *lived body* modifies and self-regulates itself through its active perception.

Damasio's claim intersects with and offers an interesting interpretation of Merleau-Ponty's statement about the interrelatedness of the perceiving subject and the object of perception. Merleau-Ponty claims that '[I]nside and outside are inseparable. The world is wholly inside and I am wholly outside myself' (Reynolds 2005). Through an application of Damasio's claim, it is the changes within the body-proper as implicit within the act of perception that bind the internal and the external, or that connect us to our environment.

One could argue that Damasio's claim of neural records, which capture the shifts in the body proper in perceiving its external environment, simultaneously serve as a record of the experiences of the body in relation to its environment.

Damasio also highlights the prominence of perception in the process of reasoning and decision-making. He posits that the 'factual knowledge' we need to facilitate this process is derived from perceptual images (constructed by 'the world inside our body or around it'), recalled images (sensorially perceived images of the past) and fictional images of a possible future (Damasio 1994:96-97). Building on Damasio's theory one could then argue that our cognitive processes are reliant on the *lived body's* active perceptions that are not restricted to *lived experience* of the present moment but are engaging with moments experienced through our sensory perceptions across time frames. The recalled sensory perceptions of the *lived body* are therefore central in our construction of its past; and even of its projected future.

The ‘interactive nature’ of the moment of perception, which is ‘related to other contemporaneous perceptions as well as to past perceptions’ (Moore and Yamamato 1988:32), therefore carries with it the full weight of our accumulated experiences, or lived experiences which in turn influence our attention and perspective in the perceiving act. In other words the act of perception is one that is determined by the history of the perceiving subject. These accumulated experiences are indeed the experiences of the *lived body*, of the nexus of the body-mind that integrates each aspect of our being. However as Grosz tells us even Merleau-Ponty concedes that ‘experience is not outside social, political, historical, and cultural forces’ (Grosz 1994: 94). This active perception is therefore a subjective one as this archive of perceptual experiences, which maps the interface of the individual and the world around him/her, is one that is built within a particular historic, social, cultural, spatial and temporal context.

Thinking in Motion

Thus far I have argued for ‘thinking as an embodied act’ which is facilitated through active perception. However for the purposes of interrogating the translation of the archive into material form, I also need to consider Fraleigh’s claim that the body not only thinks, but that it ‘thinks as it moves’ (Fraleigh 2000:57). This has direct bearing on the interrogation of the relationship between how the body ‘thinks’ in the process of the excavation of the archive and its translation into theatrical language and movement.

For Maxine Sheets-Johnstone, who also argues that the body-mind ‘think[s] in movement’ (Sheets-Johnstone 1981), motion is the central factor within perception and is key in the way we ‘think in movement’. She claims that movement is the source of cognition (Fraleigh 2002, Parviainen 2002) and explains that we ‘literally discover ourselves in movement. We grow kinetically into our bodies’ (Sheets-

Johnstone 1999:136) and we learn by moving and by listening to our own movement (Parviainen 2002:16). As a phenomenologist and dancer Sheets-Johnstone claims that '[p]erceptions are plaited into [one's] here-now flow of movement. Sensing is always at the interface of the movings of a mindful body' (Sheets-Johnstone 1981:403).

Sheets-Johnstone critiques reductive analyses of perception as they lack what for her is key in perception: movement (Fraleigh 2002:121). For Sheets-Johnstone it is 'self-movements' that allow for the process of perception. Sheets-Jonstone's claims are well situated within the phenomenological paradigm, in which 'the subject is related to things "through the living body"' but with an emphasis on the fact that this happens through kinaesthetic sensations[11] (Parviainen 2002:16). Sheets-Johnstone sees what she terms a 'tactile-kinaesthetic sense' as a central organizing role for perceptions as a whole (Ibid:16).

Sheets-Johnstone sees tactile-kinaesthetic sense, or movement, as that which brings all our perceptions together. In this way she proposes that movement or our 'tactile-kinaesthetic sense' is a form of 'cognition', or to re-phrase this, her proposal suggests that movement is a form of thinking.

For Sheets-Johnstone, the workings of a dance (and by extension here Physical Theatre) improvisation are testimony to the ways in which we think in movement. The ideas that I have assimilated and developed in this chapter enable the idea of 'thinking in movement'. By freeing our view of 'thinking' from that which a mind does we also break the assumption that binds 'thinking' solely to language and rationality (Sheets-Johnstone 1981:400).

[11] Fraleigh's recent writings on the *lived body* reflects the centrality of movement in its relation to the world. The *lived body* is viewed as 'the body in its subjectivity and motility as *known through movement*' (Fraleigh 2004:55).

Sheets-Johnstone describes the possibility of thinking in movement by drawing a comparison between Merleau-Ponty's writing on Cezanne's art work, which he described as "thinking in painting" as a process in which vision becomes gesture (Ibid 402). Sheets-Johnstone stresses that in saying this, Merleau-Ponty

> did not mean movement follows perception…but that perception is interlaced with movement…to the point where it is impossible to separate out where perception begins and movement ends or where movement begins and perception ends; the one informs the other (Sheets-Johnstone 1981:402).

For Sheets-Johnstone this thinking in movement, at the intersection of moving and perceiving within the moment of improvisation, is conducted in a way in which 'thinking is not divorced from doing more than perceiving is divorced from doing' (Ibid:403). She argues that if the notion of 'thinking' was 'broadened and in consequence the notion of rationality as well, then clearly, thinking in movement could be regarded and/or qualified as a particular kind of rationality…'(Ibid)[12].

The term Physical Intelligence synthesizes the key ideas that have been discussed in this chapter. To me Physical Intelligence encompasses a sense of the integrated body-mind as the nexus of the interrelated and inseparable aspects of the human being. These would include the faculties of thought, feeling, emotion, memory, motion, as well as its psychological dimensions, its physiological processes, and possibly even its spiritual dimensions. It contains the notion of embodied thinking as the processes of self-regulation, action, motion, decision-making and memory formation and recall that all take place through the primary interface of perception. Through the claim that 'to perceive the world is to coperceive oneself' (Gibson and Gibson cited in Fraleigh 2004:55), Physical Intelligence posits active perception as

[12] Sheets-Johnstone cites Piaget's 'practical or sensory-motor intelligence' and Kristeva's 'primordial semiotic of gesture' as sharing some commonality with the phenomenon of thinking in movement (Sheets-Johnstone 1981:403).

the primary means through which the integrated body-mind experiences the world, the self and the self in the world.

The self-regulation embedded within the perceptual process becomes a way of writing experience into the body-mind, a way of bringing together the internal and external environment. However as I have stated, experience is shaped by multiple forces within the individual's context. In this way perceptual processes are instrumental in the way that our body-minds are constructed through our broader context.

The assertion of the centrality of motion, or movement, within perceptual processes, as claimed both by somatics through its notion of the sensorium-motorium; and by Sheets-Johnstone's contention that movement is integrated within the perceptual process is key in addressing improvisational process that function through the somatic impulse.

While perception clearly emerges as a significant concept on which much of this argument is hinged, it is important too to acknowledge its fluidity and fundamental complexity as a process since as Moore and Yamamoto remind us:

> Paradoxically, perception is an internal *and* external process, an in-born *and* a learned one. Percepts are real *and* illusory, simple *and* complex, highly individualistic *and* socially defined, stable *and* changing (Moore and Yamamoto 1988:28).