

To Perform the Layered Body—A Short Exploration of the Body in Performance

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The aim of this article is to focus on the body as instrument or means in performance-art. Since the body is no monolithic given, the body is approached in terms of its constitutive layers, and this may enable us to conceive of the mechanisms that make performances possible and operational, i.e. those bodily mechanisms that are implicitly or explicitly controlled or manipulated in performance. Of course, the exploitation of these bodily layers is not solely responsible for the generation of meaning in performance. Yet, it is that what fundamentally enables/ the generation of sense and signification in performance-art. To approach the body in terms of its layers, from body image and body schema to in-depth body, may partly answer the complexity at work in art performances, since these concepts enable us to consider, on a theoretical level, the body as represented object, as subject, as motor means for being-in-the-world, as origin of subjectivity and emotions, as hidden but most intimate place of impersonal life processes, as possibly distant image, as sensitive, fragile and plastic entity, as something we own and are owned by, as our most personal and yet extremely strange body.

1. Introduction: philosophy and the explicitness of the body

Philosophers are cleanly people when it comes to the body. Although Descartes dissected animal corpses (and at least once had vivisected a rabbit) in order to satisfy his curiosity for anatomy (Rodis-Lewis, 1995), this philosopher also proclaimed a purified, mechanistic view on bodily functioning and movement. The residue of his mechanistic body—a mental disembodied realm of thinking—has preoccupied philosophers from that time on. It must be noted, however, that the ‘fatal’ dualist conception of body and mind (*res extensa* and *res cogitans*) is, to a large extent, a product of *post*-Cartesian thinkers. Descartes himself can be read as a philosopher for whom the *unity* of body and soul in the chiasmatic structure of the passions is crucial (cf., for example, the contributions by Rodis-Lewis and Gaukroger in Cottingham, 1998; De Preester, 2006). One may say that the untidiness of the passions, transgressing mind-body boundaries and mixing up the purity of the two realms, is the painful scene where the neat metaphysical distinctions necessarily fail. Despite Spinoza’s sarcasm (cf. *Ethics*, opening of part five), Descartes was fully aware of the crucial role of the passions and of the unity of mind and body.

The resurrection of the body in philosophy is a slow and rather complicated process. In the same way as history mainly has been a history of reason, which hides and conceals another, bodily history (cf. Le Goff & Truong, 2003), the official version of modern western philosophy mainly has been a philosophy of reason. Nevertheless, renewed philosophical, psychological and neuroscientific theoretical interest for the body has led to a boom of body and embodiment studies in the twentieth and twenty-first centuries. Nowadays, a philosopher of the body can join interdisciplinary research on the body, and witness its outstanding results, s/he can scrutinize faithfully the extensive literature on embodiment, s/he can be moved intellectually by the perplexing phenomenon of the body, and s/he can aim at penetrating this often obscure realm from which movement, passions, disease, life and death, metabolism and mind originate.

Yet, a non-theoretical, existential explicitness of the body is often experienced as threatening, corrupting, and contagious. In a range of singular situations, the body appears as fascinating, both repulsive and attractive, at the same time extremely fragile and hugely plastic. The philosopher may continue a search for these singular situations in the 'lab' of the body, and s/he may actively seek for an encounter with this explicitness of the body. S/he may look for what happens in the encounter with a body situated explicitly *as* living and lived body, and may meet bodies broken, damaged, abused, neglected, ecstatic, celebrating, vigorous, breathing, digesting, loving, suffering, enjoying and dying. Where does the philosopher have a chance of meeting these bodies, which are no longer clean and neat but explicitly prepared to sweat, to violate, to love, to excrete, and to explore its and our boundaries? In brief: at what point does the philosopher feel s/he is no longer able to put *a priori* the body into a philosophically domesticating, (post-)Cartesian discourse?

At large, two options seem to be available in order to become aware of the limitations of one's own, private bodily life and those of a *restrictive* theoretical-philosophical approach. First, the encounter with the body and its subject in a clinical setting. Second, the encounter with the body and its performer in performance. The rather broad issue at stake in this article is what exactly a philosophical gaze at the body in the second situation, the one of performance, may or may not reveal, and what philosophical and conceptual tools may be mobilized in order to elucidate what is seen there. Therefore, performance will not be approached here in terms of its subject matter or theme, but rather in terms of the bodily operations at work in it. In close connection to this, a number of experiments and findings from

neuroscientific-clinical contexts will be used. As such, philosophical and neuroscientific frames of reference are mixed and used to explore what happens in performance. Performative actions situate the body in a very specific way—a way that often oddly resembles situations of disease/deficiency as met in clinical contexts or changed bodily and/or mental functioning.

The more specific question of this article is *in what way the body becomes explicit* in these situations. First, are we able to trace and understand the operations by which the body becomes explicit? Second—and since the body is no monolithic given—*which* bodily level or layer is exhibited, *which* bodily functions, *which* bodily life or death is shown and confronts us? The concepts of ‘body image’, ‘body schema’ and ‘in-depth body’ will serve as our guidelines.

These questions pertain to more than and also to something partly different from questions about the subject or object position of the body, or the mind/body/brain split. Rather, the issue at stake is whether it is possible to elucidate from a philosophical point of view and with some important help from clinical and neuroscientific findings the specific situatedness of the body in the existentially charged field of performance.

2. *A seminal shift: the artist's body becomes visible*¹

In recent history of art, the body is no longer solely the content or subject of a work of art, but also functions as canvas, brush, frame or platform. As a brush, for example, the body has become a tool for painting, and leaves traces of itself and its activities in the work of art. A work of art that openly permits the traces, stains and imprints of the artist's body breaks away from the age-old tradition of painting on canvas, in which the painting body remained invisible in favour of the painted body. The artist's body surfaced, from around 1960, in a dramatic and often aggressive way. As such, the body is no longer stable and determinate, but explicitly temporary, contingent and unstable.

Jackson Pollock, who died in 1956, radically changed the relation of the body to the painting by the horizontal positioning of the canvas in the studio. Attention turned away from the painting as object (the canvas) to the act of painting itself (cf. the term ‘action painting’). The fact that his body *moves around* the flat canvas redefined the role of the body by changing its body-schematic position (cf. *infra* for the term ‘body schema’) in relation to the canvas. Another kind of bodily contact with the work was sought for in creating the work. This change in body-schematic relation between the

artist's body and the work of art produces a body that is an integral *part of* the work. In fact, the true work of art was Pollock's gesturing body.²

Gradually, this shift has brought the artist's body more and more into the picture, no longer as the *medium* of the intentional relation of painting, but as its *terminus*. Later on, events and *Happenings* such as Claes Oldenburg's or Carolee Schneemann's even called the *public* to participation, and aimed at incorporating the public in the work of art. In this, the active, participatory body of the artist occupies a central place, and the flesh of the artist's body as material is open to a visual exploration (e.g. Schneemann's 'Eye body', 1963).

The history of performance shows a moving and gesturing body whose language is extremely unstable, and which calls forth very divergent and often contradictory reactions. Artists have transformed the body, its movements, acts and gestures into works of art, and the body seems to resist the transparency and essentialism of a Cartesian subject, which is clear and distinct, certain and obvious. In performance, the body abruptly and explicitly comes into visibility and resists forms of objectification that may put it to rest, to clarity and obviousness. The body becomes maniacally charged, in the sense that it enacts fears, fantasies, beliefs and so on, and in the sense that it confronts and makes us suffer as soon as we have to turn to its bold presence. The body, in its distressing explicitness—which may be an explicit absence—exhibits an existential level that is usually concealed, partly because it functions without (and even underlies) our ordinary and superficially guaranteed awareness.

To render the body explicit within the context of performance (or, for that matter, within a clinical setting) very often conflicts and discords with what is subjectively and/or socially expected from the body and its embodied subject. This happens not only through the moving and gesturing body or by way of a body image (cf. also *infra* for the term 'body image') that is anti-conformist, but often arises from a deeper bodily level that is evoked to the surface. Sometimes the 'flesh' in its generality is celebrated, in an erotic ritual (cf., e.g. Schneemann's *Meat Joy*, 1964). The other time, the specific use of blood, welling forth from the in-depth body, or the use of intestines (cf. Nitsch' *Orgies-Mysteries Theatre*, 1984) can serve as a ritual means for celebrating life, but also as reference to an abject or despised body. Body boundaries are explored on the level of the body image, the body schema and the in-depth body, between the inside and the outside body, between the 'private' and the 'public' body. How are we to get a grip on these extremely

diverse bodily faces and expressions with the help of concepts such as ‘body image’, ‘body schema’ and ‘in-depth body’?

3. *Conceptual and other distinctions between body image and body schema*

3.1 *Bodily space is situational space*

We start with a very short presentation of how the French phenomenologist Merleau-Ponty considered the body and its motor dimension, in order to introduce the notions of body image and body schema. In his work, a satisfactory distinction between body image and body schema is absent, and in general, these concepts have a long and confusing history. However, Merleau-Ponty is an adequate starting point as he pays attention to a number of crucial bodily phenomena. To start with, and according to Merleau-Ponty’s (1945), it is inadequate to say that my body is a phenomenon in which the totality takes precedence over the parts, for the question is *how this is possible*. My body is at my disposal as a whole, but how can we explain this bodily presence and this apparently immediate availability of the body? Merleau-Ponty’s answer is straightforwardly existentialist:

The fact that the paralysed limb of the anosognosic [patient with impaired awareness of illness, in this case an impaired awareness of the fact that his limb is paralysed and of the paralysed limb itself] no longer counts in the subject’s body image, is accounted for by the body image’s being neither the mere copy nor even the global awareness of the existing parts of the body, and by its active integration of these latter only in proportion to their value to the organism’s projects. (Merleau-Ponty, 2002: 114)

The anosognosic, who seems to deny or who lacks awareness of his paralysed limb, no longer has his paralysed limb at his disposal for a certain existing or possible task. This means that the body image—as Merleau-Ponty calls it—is a dynamic phenomenon, in which body parts are integrated according to and to the extent that it matches the existential, motor value for the subject. In that sense, the body’s spatiality is a subjective spatiality of *situation*, not an objectified spatiality of *position*, as in the object’s case. The phenomenon of the body image and its deficiencies show that my body is in-the-world.

The relationship between the two spaces [objective, positional space and bodily, situational space] would therefore be as follows: as soon as I try to posit bodily space or bring out its meaning I find nothing in it but intelligible space. But at the same time this intelligible space is not extracted from oriented space, it is merely its explicit expression, and, when separated from that root has no meaning whatsoever. The truth is that homogeneous space can convey the meaning of oriented space only because it is from the latter that it has received that meaning. (Ibid.: 116-117)

This passage might be interpreted in the sense that we should not look for explications that transform oriented, bodily, situational space into homogeneous, positional, Cartesian space, but rather should render the oriented, bodily space itself explicit. But how should we do this?

From a theoretical point of view, the *moving* body is constitutive for space: bodily and external space form one system, in which the body is the background or the 'void' against which an object—as goal of our actions—appears.

By considering the body in movement, we can see better how it inhabits space (and, moreover, time) because movement is not limited to submitting passively to space and time, it actively assumes them, it takes them up in their basic significance which is obscured in the commonplaceness of established situations. (Ibid.: 117)

Merleau-Ponty analyses an example of 'morbid' motility in which it becomes clear how body and space are fundamentally related and mutually constituted in movement. One of the features of the patient's behaviour is that he is unable to point to or order a part of his body, but is able to quickly move his hand to the spot where a mosquito has stung him. In other words, 'knowledge of where something is' is twofold: "The patient is conscious of his bodily space as the matrix of his habitual action, but not as an objective setting; his body is at his disposal as a means of ingress into a familiar surrounding, but not as the means of expression of a gratuitous and free spatial thought" (Ibid.: 119). More pointedly:

There is my arm seen as sustaining familiar acts, my body as giving rise to determinate action having a field or scope known to me in advance,

there are my surroundings as a collection of possible points upon which this bodily action may operate,—and there is, furthermore, my arm as a mechanism of muscles and bones, as a contrivance for bending and stretching, as an articulated object, the world as a pure spectacle into which I am not absorbed, which I contemplate and point out. (Ibid.: 121)

However, it is never our objective body that we move, but always our ‘phenomenal’ body, i.e. our body as a potentiality for association with the world. This association with the world is in the first place an ‘I can’, and not an ‘I think that’. In other words, “Consciousness is being-towards-the-thing through the intermediary of the body.” (Ibid.: 159-160) Although the ideas forwarded by Merleau-Ponty are appealing, more conceptual and clinical clarity about these phenomena is certainly helpful.

3.2 Conceptual and clinical distinctions between body image and body schema

a) Conceptual distinctions

A more recent definition of *body schema* reads as follows: “Body schema can be defined as a system of preconscious, subpersonal processes that play a dynamic role in governing posture and movement. (Gallagher & Cole, 1995: 370). The function of the body schema is to maintain posture and to move without *consciously* monitoring motor activity. This aspect and the *subpersonal* aspect differ from the definition of *body image*: “[Body image is] most often defined as a conscious idea or mental representation that one has of one’s own body. (Ibid.: 370). In contrast to body schema, body image is *conscious* and very often *personal*.”

Another conceptualization of the distinction between body image and body schema happens in terms of *intentional subject* and *intentional object*. “The *body image* consists of a complex set of intentional states—perceptions, mental representations, beliefs, and attitudes—in which the intentional object of such states is one’s own body. Thus the body image involves a reflective intentionality” (Ibid.: 371). One’s own body is the intentional *object* of a set of intentional states directed to it; with ‘intentional’ meaning ‘to be about’, or referring to a phenomenon ‘that points outside itself’. The intentional subject takes her own body in an act of reflective intentionality as the object of her act: she bends over, in an act of representation, belief

or attitude, to her own body. At large, three body image modalities are distinguished: (1) perceptual experiences of one's own body, (2) conceptual understandings of the body in general, and (3) emotional attitudes toward one's own body.³

Body schema does not share this self-referential characteristic of body image. "In contrast to the reflective intentionality of the body image, a *body schema* involves a system of motor capacities, abilities, and habits that enable movement and the maintenance of posture. The body schema is not a perception, a belief or an attitude. Rather, it is a system of motor and postural functions that operate below the level of self-referential intentionality, although such functions can enter into and support intentional activity" (Ibid: 371).⁴ The body schema does not have the status of a conscious representation or a belief. It is a preconscious, sub-personal system that enables and supports intentional motor activity. The *body schema* is to be found at the side of the intentional subject, and not at the side of the intentional object.

A third aspect concerns the degree of representation of the body in the body image. "(...) body image involves a partial, abstract, and articulated perception of the body insofar as thought, attention, and emotional evaluation attend to only one part or area or aspect of the body at the time" (Ibid.: 373). In contrast, the body schema functions in a more integrated and holistic way. "A slight change in posture, for example, involves a global adjustment across a large number of muscle systems. Proprioceptive information, originating in different parts of the body, does not function in an isolated or disintegrated manner but adds together to modulate postural control (Roll and Roll, 1988)" (Ibid.: 374). The body image is often based on an intentional act directed to a *part* of the body, whereas the body schema involves the (musculoskeletal) body *as a whole*. Related to this third aspect is the following distinction. When the body appears in consciousness, it often appears as *differentiated* from the environment, whereas the body schema is functionally *integrated* with the environment. This distinctive aspect is, however, not absolute (cf. *ibid.*: 372-373).

Fourth, the information source about posture and movement which is necessary for the operation of the body schema is proprioception, or the sense of the position of the body and of body parts relative to one another. Proprioceptive information arrives from kinetic, muscular, articular, and cutaneous sources. The body schema also receives information from other systems than proprioceptive ones, such as vestibular and equilibrical functions.

b) *Clinical distinctions*

Clinical cases such as patients with body neglect or anosognosia seem to present a distortion of the body image: certain body parts or a side of the body are no longer presented in the body image. In unilateral neglect following brain damage from stroke, the left side of the body is excluded from the body percept, whereas motor capacities may remain intact at *both* sides of the body. In this case, in which the body image is distorted but the body schema remains intact, body schema and body image are dissociated. A person with hemi-neglect, for example, may fail to comb her hair on one side of the head, but will tie her shoelaces with both hands (cf. Gallagher and Cole, 1995).

The opposite case, an intact body image but a disrupted body schema, is much rarer. Gallagher and Cole have followed a patient who had lost tactile and proprioceptive input from the neck down. Control of movement was only possible by cognitive intervention and visual guidance of his limbs. This means that the patient uses his body *image* in a unique way to compensate for the impairment of his body *schema* (cf. Gallagher and Meltzoff, 1996: 215-216).

The case of this patient moreover suggests that not only the body image, but also the body schema is important for the constitution of a sense of *body ownership*. The patient reported that although he still had a conscious visual perception and a conceptual understanding of his own body, he initially felt alienated from his body, because he could not control his bodily movements. In other words, he had lost a sense of authorship of his own actions.

Paillard (2005) presents the cases of two patients with a converse dissociation. The first patient suffers from an extensive peripheral neuropathy and is capable to detect and report the perceived location of a stimulus delivered on her body. In contrast, she is unable to *reach* the stimulated spot when vision is prevented ('perception without location'). This patient had lost all sense of touch, vibration, pressure and kinesthesia below the nose (pain and temperature sensations were present). She was unable to point with her right finger to the location of a thermal or pricking stimulus, but could very accurately localize the stimulated spot, verbally or on a picture of a body. "Hence, she seemed able to localise the stimulus in her *configural visual body image* while unable, in blind folding condition, to move her finger toward the stimulated area within a *vectorial proprioceptive sensori-motor body space*" (Paillard, 2005: 101).

The second patient shows the converse dissociation. After a centrally deafferented stroke, she is able to reach the stimulated spot, but she cannot locate it ('location without perception'). This patient suffered from a partial deafferentation of her right arm (below the elbow), but had intact motor control of it. Awareness of stimulation was impaired, but somesthetic information at lower processing stages was preserved. This patient was unable to detect and perceive tactile stimulation on her right hand when vision was prevented, but (and to her own surprise) she was able to point spontaneously with her left finger toward the stimulated spot on her deafferented right hand. "(...) the centrally deafferented patient is obviously unable to perceive the stimulus delivered on her insentient hand and hence to localise it in her *visually configured body image*, although proving able to drive automatically her left hand toward the right stimulated place in her *proprioceptively framed body schema*" (Paillard, 2005: 103).

These converse clinical cases show a dissociation and thus a clinical distinction between a *postural* (situational) *body schema* and a *body image* (an internal representation of the body).

3.1. *Prosthetic bodies: ordinary cases and performance*

Let us now turn back to Merleau-Ponty, who describes a number of ordinary situations in which strange, non-bodily objects, ranging from a feather on the hat to the blind man's stick to a car, are 'incorporated' into the body schema.

A woman may, without any calculation, keep a safe distance between the feather in her hat and things which might break it off. If I am in the habit of driving a car, I enter a narrow opening and see that I can 'get through' without comparing the width of the opening with that of the wings, just as I go through a doorway without checking the width of the doorway against that of my body. The hat and the car have ceased to be objects with a size and volume which is established by comparison with other objects. (Merleau-Ponty, 2002: 165)

The incorporation of a non-bodily object as a prosthesis of one's own body points to the huge plasticity of the body. The prosthesis is no longer alien or object-like, but can become an extension of the subjective, motor and sensitive body. The blind man's stick is neither object nor middle term, but a dilation of the blind person's 'being-in-the-world'.

The blind man's stick has ceased to be an object for him, and is no longer perceived for itself; its point has become an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight. In the exploration of things, the length of the stick does not enter expressly as a middle term: the blind man is rather aware of it through the position of objects than of the position of objects through it. (...) To get used to a hat, a car or a stick is to be transplanted into them, or conversely, to incorporate them into the bulk of our own body. Habit expresses our power of dilating our being-in-the-world, or changing our existence by appropriating fresh instruments. (Ibid.: 165-166)

As such, the pressure on the stick need not be interpreted as signs of external objects, since the stick is no longer perceived as a mediating object that is perceived, but as an instrument *for* perceiving. "It is a body auxiliary, an extension of the bodily synthesis. (Ibid.: 176)

In trying to change the body schema by way of extensions and prostheses, the body is mended after impairments or can be molded for new experiences. New technologies and new possibilities of medical surgery transform both body image and body schema. The body is re- and deformed; sometimes the body is mechanized. All this is about allowing something other, some alterity, into the body. It is about the bodily dimension of plasticity and about the plasticity of bodily experience. Yet these experiences are also alienating, since the technologized and prosthetic body initially shows a fragmentation, and it requires patience, training and suffering in order to incorporate the strange.

In the next three works by performers, this issue is rather explicitly at stake. The body is extended with prosthetics, with replacement parts, made from materials that range from the everyday to very sophisticated technology. Some of these prosthetics provide an extension of the body that increases the ability to communicate, and that creates a hybrid body beyond the physical limits of the human scale. In other works the body may be transformed into a tool or an instrument.

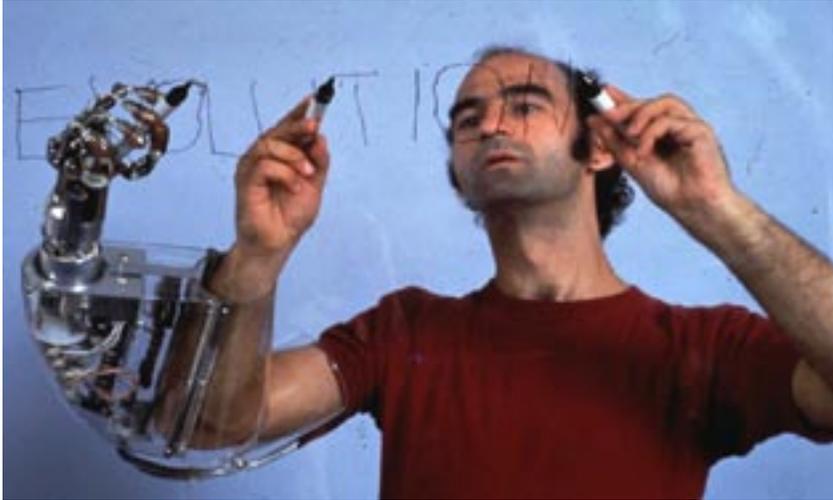
A first example is Rebecca Horn's *Finger gloves* (1972), in which she is isolated from the environment, on the one hand, but is also able to grasp remote things. The gloves both enable and disable her, and it seems as if she is looking for the possibilities and impossibilities of the extension of her body schema and of her sensitive, sensory body.



Rebecca Horn, "Finger Gloves", 1972
Photograph: Achim Thode | © Rebecca Horn
Source: www.medienkunsnetz.de/works/fingerhandschuhe/

A second example is Stelarc's *The third hand* (1976-80). Stelarc had a 'third hand' produced for him by Japanese robotic engineers. This third hand matched the size of his own right hand and was activated by electrical signals of his abdominal and leg muscles. His 'third hand' could rotate from the wrist, and grasp and release objects. It took several *months* for Stelarc to teach himself to control his third arm and to be able to write a word using his three hands at once.

Simply, the body has created an information and technological environment which it can no longer cope with. This ... impulse to continuously accumulate more and more information has created the situation where human cortical capacity just can't absorb and creatively process all this information... It was necessary to create technology to take over what the body can no longer do. It's created a technology that far surpasses certain capabilities of itself The only evolutionary strategy I see is



Stelarc, *The third hand*, 1976-1980. © Stelarc 2000

Source: www.novamedia.com.au/artists.php?view=Stelarc&sub=Samples

... to incorporate technology into the body technology symbiotically attached and implanted into the body creates a new evolutionary synthesis, creates a new human hybrid—the organic and synthetic coming together to create a new sort of evolutionary energy.” (Stelarc, *Obsolete Body/Suspensions/Stelarc*, Artist’s statement, 1980, quoted in Warr and Jones, 2000: 184)

A third example is Joseph Santarromana’s *Telegarden* (1994), in which a web of surfers use a computer in order to move a robot arm in a garden at the university of South-Carolina in LA, to plant and care for seedlings. Here we have a mechanic and cybernetic body with a long-distance arm in garden probably far away from the ‘user’ or ‘owner’ of the arm.

These three examples range from the—all things considered—ordinary to the extraordinary, as they show an increasing strangeness and distance of things that can (or cannot) be incorporated into the body and into bodily experience. It is possible to go one step further, and to ask for the effects these changes in body schema (and body image) have on the experience one has of one’s own body and, importantly, his sense of *body ownership*. Certain philosophical-neuroscientific results may clarify up to a certain degree what exactly happens in this kind of artistic explorations and performances.



Joseph Santarromana, *Telegarden* (1994)

Source: www.ieor.berkeley.edu/~goldberg/garden/Arts/

3.4. *Prosthetic/extended bodies and body ownership*

Changes in body schematic and body image aspects often show both the plasticity and the fragility of the sense of ownership of our bodies. Slightly similar to Santarromana's *Telegarden*, a number of researchers had the opportunity to use a robot that has joints that move like those of human arms and three fingers on each hand.⁵ The robot arms were seen by the human subject through a virtual reality set placed over the eyes and the robot cameras were set in the robot's head. The result was that the subject viewed the robot arms from a point of view similar to the point of view one has of one's own arms, whereas a direct vision one's own body was impossible. On one's own arms, a series of sensors were placed, which controlled the robot's arms. When the subject moved, the robot arms moved in a similar way (although after a short delay). As such, the subject saw and controlled the robot's arms, but s/he did not have any peripheral feedback from them. The subject only had peripheral (proprioceptive) feedback from its own, but unseen, arms. The experiment consisted of handing tools from one hand to another, picking up an egg, tying knots, etc.

After a few minutes we all became at ease with the feeling of being in the robot. Making a movement and seeing it effective successfully led to a strong sense of embodiment within the robot arms and body. This

was manifest in one particular example when one of us thought that he had better be careful for if he dropped a wrench it would land on his leg! Only the robot arms had been seen and moved, but the perception was that one's body was in the robot. (Cole et al., 2000: 167)

What does this experiment show? First, one's sense of agency (the sense that I am the initiator of an act) and one's sense of ownership of action (the sense that it is my body that is moving) are intact. However, a *misidentification* occurred of the sense of ownership of one's own body, as it was transferred into the robot arms (which had little visual similarity to human arms). For the experimenters, it was a surprise that the sense of ownership of *body* is so plastic and fragile. However, if this were not the case—i.e. if we were not able to change our mapping of a sense of ownership and agency onto altered bodies, “we might be at risk of alienation from them” (Ibid.: 167). We may think here of situations or periods of life in which our bodies change in size, shape and motor skills, e.g. when we grow, are pregnant, or are injured.

A next experiment also reveals an aspect of the basis of bodily self-identification. The experimental situation was as follows: a subject was seated with her left arm resting upon a table, and this arm was hidden from the subject's view by a screen, whereas a life-sized rubber model of a left hand and arm was placed on the table in front of the subject. The experimenters used two small paintbrushes to stroke simultaneously the rubber hand and the subject's unseen hand. After ten minutes, the subject had to complete a questionnaire. “The completed questionnaires indicated that subjects experienced an illusion in which they seemed to feel the touch not of the hidden brush but that of the viewed brush, as if the rubber hand had sensed the touch” (Botvinick et al., 1998: 756). Processes operating between vision, touch and proprioception are structured by the correlations that normally hold between these three modalities. In this case, there was a perceptual effect that involved intersensory bias.

It has been proposed that the body is distinguished from other objects as belonging to the self by its participation in specific forms of intermodal perceptual correlation. Subjects in our first experiment who referred their tactile sensations to the rubber hand also consistently reported, in both sections of the questionnaire, experiencing the rubber hand as belonging to themselves. Indeed, eight of ten subjects spontaneously employed terms of ownership in their free-report descriptions,

for example: “I found myself looking at the dummy hand thinking it was actually my own.” While the rubber hand illusion does not tell us precisely what ingredient might make only certain forms of intermodal correlation relevant to the self, it does show that intermodal matching can be sufficient for self-attribution. (Ibid.: 756)

The presence of synchronized (and spatially congruent) visual and tactile stimulation was a necessary condition for the inducement of the rubber hand illusion. At the level of experience, which can be phenomenologically described, the experience in the rubber hand illusion can be described as a form of incorporation of a strange object. As Merleau-Ponty says, the rubber hand becomes a *body auxiliary*.

Introspective evidence from the original experiment (Botvinick & Cohen, 1998) suggested that participants felt not only as if they were feeling the touch at the location where the rubber hand was seen to be touched but also as if the rubber hand was their own hand. In a sense, their tactile sensations were projected onto the rubber hand, which eventually felt like part of their own body. (Tsakiris & Haggard, 2005: 80)⁶

A sign of this was that participants misperceived the position of their hidden hand as being closer to the rubber hand than it really was. (cf. *ibid.*: 87-88)

Yet it is still unclear what kinds of objects can be incorporated into one's own body. Research on tool use has demonstrated the neurophysiological mechanisms underlying incorporation of tool during tool use in primates and humans, but the question *how far* the body schema can be extended remains open. Yet, if we think of Santarromana's *Telegarden* and couple this to the idea that a kind of extremely extended embodiment might be possible, the perspective of technologized cyberbodies is not merely a matter of alienation and fragility, but also a matter of incorporation on the basis of a hugely plastic body.

Experiments on the RHI can address empirically the relation to one's own body at different levels of functional description, from neural to phenomenological. The results presented in this article could also

have important technological applications, for example, in the field of telepresence and sensory-motor experiences in virtual reality environments. (Ibid.: 91)

The finding that art and science are on the same track should not surprise us here. We only have to think of the fact that, at least since the Renaissance, art also is a scientific endeavor, in the broad, humanistic sense.

4. More broadly: body image, body schema and performance

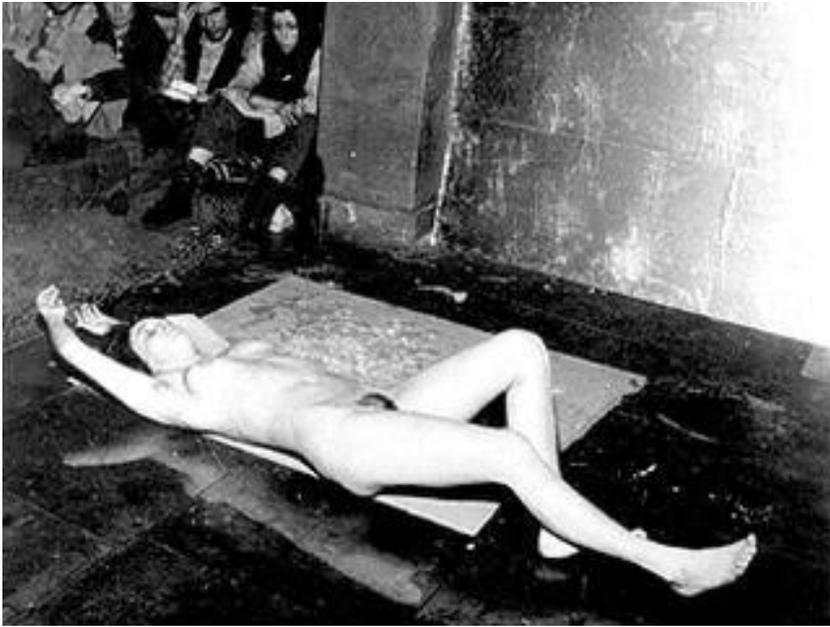
With the conceptual/clinical/experimental tools of *body image* and *body schema* at hand, a number of performances exploring body boundaries and body identity can be re-approached.

4.1. Body image performances

Performances that interfere with the body image are abundant and well documented. Very often, these performances explicate the problematic relation of the subject with an *intersubjectively* constituted body image—a dimension overtly absent in the above definition of the body image. A first example is Valie Export's *Erosion* (1971). This is her description:

I first rolled naked on the glass sheet, then in the glass splinters and finally on the paper screen. The cuts in my skin resulting from the slight abrasions caused by the broken glass are openings to the intima, to the inside of the veins, the inside of the body ... the body is a projection surface when viewed from outside ... the incisions are openings to the inside, they open up the image, they are the cut on the projection surface of representation, namely the 'body', cuts in the image of the 'body', surrendering itself to the gaze. The symbolic function of the body is cut open, ... (Valie Export, *White CubelBlack Box: Video Installation Film*, 1996, quoted in Warr & Jones, 2000: 116).

Export points to the fact that the image of the surface body, the skin body, functions symbolically. The body, dominated by social signs, is cut to open up its biological dimension.



Valie Export, *Erosion*, 1971

Photo: M. Clay/H. Hendrich | © VG Bild-Kunst 2004

Source: www.medienkunstnetz.de/works/eros-ion/

A more recent example is Heli Rekula's *Hyperventilation* (1993), in which the metaphorical and physical boundaries of the body are sealed. This work shows that the body image is much more than a smooth surface image of a self-contained body, but also a source of anxiety because the body image presents gaps and breaches that are difficult to cope with. The boundaries of the body can therefore be sealed in an effort to contain oneself and to control the anxiety caused by the fact that the surface body exhibits a degree of openness to the world. This openness to the world implies the possibility of a loss, of emptying out into the external world, but also the possibility of penetration.

In *Hyperventilation* Rekula seals her body with a gas mask that seals the openings of the body and results in a self-contained body that re-cycles its own wastes. "Her body becomes a self-contained unit that recycles its own wastes through their reintroduction into the body via the mouth. This self-containment is emphasized by the anonymity offered by masking her face, which renders both communication and loss impossible. But the 'safe' body is sealed and therefore poisons itself by ingesting its own excreta. The title, *Hyperventilation*, which can cause death and is the result of fear, emphasizes the danger of self-containment." (Warr & Jones, 2000: 187)



Heli Rekula, *Hyperventilation* (1993). Cibachrome on aluminium, 100 x 135 cm, ed. 5.
Source: <http://www.anhava.com/exhibitions/rekula/index.html>

The social, physical and metaphysical openness of the body image to the natural and the intersubjective environment shows that not only the body schema is in interaction with its (physical) environment (cf. supra), but in a more diverse and sometimes distressing way, the body image is equally an *open* and vulnerable phenomenon, both physically, metaphysically and socially.

In a more straightforward way, a series of performances present very particular bodies, i.e. subjects that have an explicitly gendered, racial, ethnic or economic identity and are as such marginalized. The explicitness of their particularity, the encounter with a body image that is marked as ‘other’ produces unease in the audience. The presentation of these body images are a sign of protest against an abstracted and normative body image that is most often white and male. The particular body image acquires a political dimension and the explicitness of a particular body image serves as a metaphor for the pain of social, economical and political discrimination, and as a reaction against the normativity of ‘accepted’ body images.

If we limit the scope a little more, what the above performances show is a sometimes unsettling consciousness of one’s own body via the body image. Body mutilation or other actions on the body can make this consciousness explicit to the audience, and may help in trying to come to terms with or change the body image. Whether body mutilation is fake and controlled or real, the integrity and limits of the body image are tested, restored or threat-

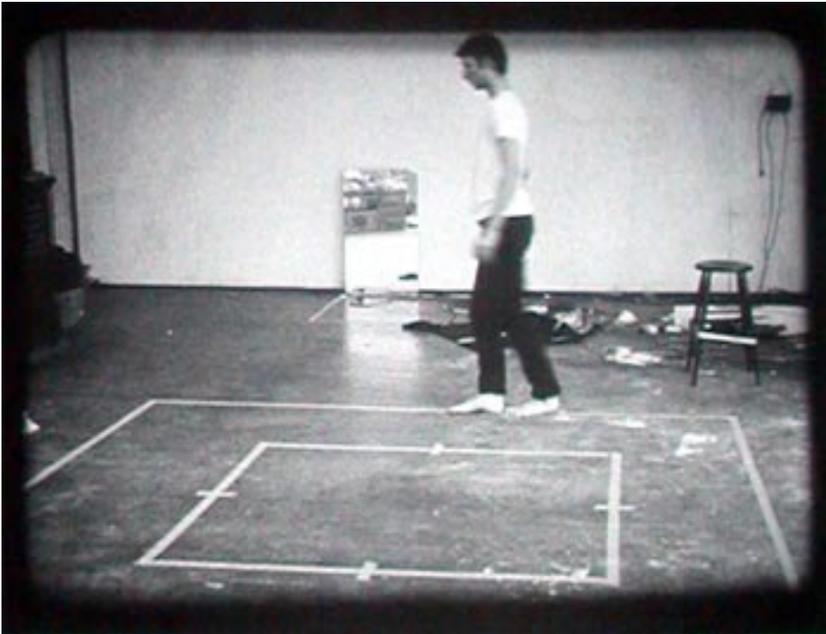
ened. Very often, and especially in the 1970s, mutilation of the body is also a sign for the inscription of the social onto the body. In the 1980s the body as image of the self is further explored, and in the 1990s, the body image is explicitly scattered, fragmented, and presented as incomplete. The above quoted definition of the body image fits better with this recent fragmenting approach than with the previous examples. Nevertheless, we already find in the seventies a nice example in which the body image is presented and explored as incomplete. In Joan Jonas' *Mirror Check* (1970), the performer is naked in the gallery, with a small handheld mirror that she moves around her body. With it, she focuses on small areas of her body, which are only seen by her via the mirror, and which she reports to the audience. Jonas explores the reflexive—and in reporting, also the reflective—possibilities of the mirror in the constitution of her body image.

4.2. *Body schematic performances*

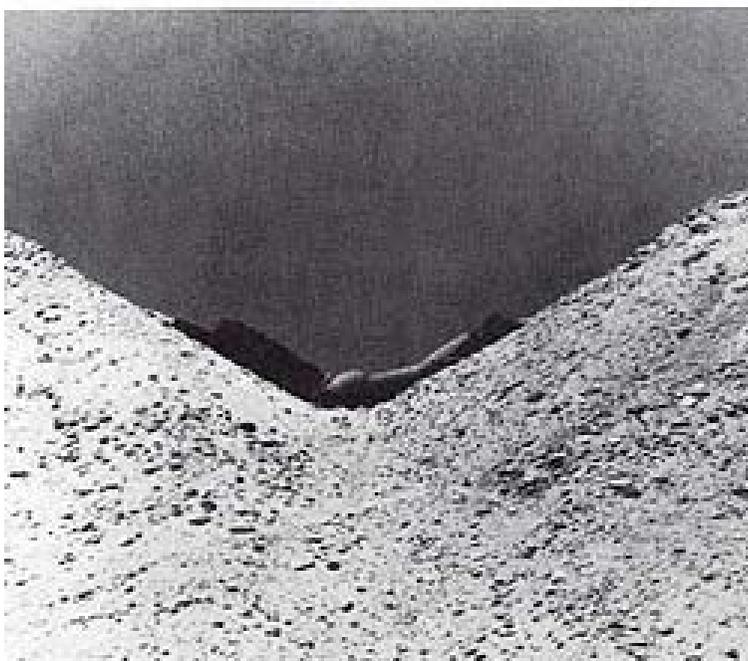
Performances that operate on the basis of the body schema work in a different way, not via an exploration of the body image, its boundaries, functions and (im)possibilities, but often via a 'denaturalization' of bodily actions and activities in the very broad sense. This 'denaturalization' of bodily actions oddly resembles what a visitor or a trainee sometimes experiences in clinical settings. A patient suffering from apraxia after brain damage may make the complexity and non-obviousness of daily and 'simple' motor actions and activities painfully clear to a spectator. People suffering from apraxia show a motor disorder in which volitional or voluntary movement is impaired. This impairment is not due to muscle weakness, but to the inability to select and sequence movements required for an action (e.g. how to use a knife for peeling potatoes, or how to open and close a door). The movement or the motor action becomes explicit up to the degree that it loses its obviousness and its casualness. In much the same way, when the *gesture* of the artist is itself a work of art and if very daily activities are elevated to the status of art, everyday actions and ordinary activities lose their obviousness and gain a sometimes unbearable meaning—something well used in turning a gesture into a political gesture. The simplicity but also the potential complexity of an activity performed by the motor body or the embodied subject is rendered visible (cf. Dick Higgins and Alison Knowles, *Danger Music No. 2*, 1962, in which somebody's hair is being shaved). These experiences may change

or prevent the unburdened return to daily life, and may cause the audience to see things differently from before. One might say that the mechanism consists in making body schematic activities explicit and visible, such that the body-schematic activity is no longer unconscious and residing at the side of the subject (as a source of motor activity), but becomes conscious and object-like. Often, very specific physical and motor situations are created (in walking, dancing, etc.) such that the focus is directed to a meeting or confrontation with the motor body in physical space. Two nice examples are Bruce Nauman's (1967-1968) *Walking in an exaggerated manner around the perimeter of a square*, a ten-minute video of 'epic banality'; and Dennis Oppenheim's *Parallel stress*, 1970.

By extension, this bodily, motor 'apraxia' can become a social or revolutionary apraxia, by making the implicit explicit and by turning the dullness and obviousness of a bodily gesture into a movement loaded with significance, protest, or exploratory power. The underlying presupposition of obviousness is neutralized, such that the seen action loses this obviousness, its state of safety and its harmlessness.



Bruce Nauman, *Walking in an exaggerated manner around the perimeter of a square* (1967-68). Source: www.cnarts.net/cweb/exhibit/show/quanshi/zuopin.asp?page=8



Dennis Oppenheim, *Parallel Stress*, 1970.

Source: http://terrotoiresinoccupes.free.fr/art/1_1_F3_frame.html

4.3. *The mastering of the body: how much explicitness can be mastered?*

According to Vivian Sobchack, the body becomes an increasingly distanced image, a thing to be seen, to be managed and mastered (cf. Sobchack, unpublished 1997 essay *Is any body home?: embodied imagination and visible evictions*, manuscript, 6; quoted in Warr & Jones, 2000: 35-36). From a philosophical point of view, this is a remarkable shift, as the managing and mastering of the body traditionally was a managing and mastering of the passions, and not of a body image. Now, it is the *image* of the body that needs mastering. The body is imaged via technological and other instruments that *reflect* our bodies.⁷ This distancing of the ‘real’ body in its image may provoke parodies of the cleanly body as a spectacle in which the palpable world is replaced with an image that has an impenetrable surface. In other words: the body image is explicitly produced *as image*. According to Sobchack, to say that we have lost *touch* with our bodies does not mean that we have lost *sight* of them. “Indeed, there seems to be an inverse relation between seeing our bodies and feeling them: the more aware we are of ourselves as the ‘cultural artifacts’, ‘symbolic fragments’ and ‘made things’ that are images, the less we seem to sense the intentional complexity and richness of the corporeal existence that substantiates them” (Sobchack, quoted in Warr & Jones, 2000: 41). Yet, Sobchack does not seem to see that bodies can be extremely plastic and that bodies are able to deal with extension, both (neuro-)physiologically and on the level of experience, both on the level of the body image and the body schema.

The production and reproduction of the body in performance may equal a production and reproduction of embodied subjects that have not lost touch with their bodies, but develop—in an often painful way—a new kind of ‘being in touch’ with their bodies. If one does not stick to the myth of an originary presence of the body to itself and to the embodied subject, and if one witnesses what happens both in performances and clinical cases, the task of the subject is not to regain an originary presence of and to its body, but to produce and re-produce its body time and again. The body in movement and experience is an open-ended process, open to otherness, but also vulnerable in the face of this openness. This is what a mastering of body image and body schema may imply: the never-ending struggle with the constitution of a viable body, physically, personally, and socially.

Mastering, coping with or coming to terms with the body asks for a certain degree of explicitness of the body—body schematic skills, for example, ask at first for explicit body awareness via the body image. Vice

versa, unexpected (or even expected) explicitness of the body asks an effort of mastering from the subject—be it the performer, the audience, the patient or the clinician. It is this direction from bodily explicitness to trying to master, to cope with or to come to terms with that is at stake here. More in particular, the focus is on *why* performances often invite, incite or compel the audience (and often also the performer him/herself) to come to terms with what is going on in the performance. The answer suggested here is that the unusual and explicit presence of a certain layer of the body is confronting because it goes against the obviousness of what is implicitly assumed or operational—be it on the level of the body image or the body schema.

The paradoxical strategy of these body-oriented works is to de-pathologize difference by producing it as excessive and, at the same time, by soliciting the desire *and* identification of their audience. Bodily norms are assumed through a performative, ‘reiterative and citational practice’ (...) while performing abjection, they continue to solicit our identifications and desires. (Jones, 2000: 35)

Although Jones is talking here about politically charged performances (concerning racism, sexism, classes etc.), the procedure described resembles the above suggestions: only explicitness evokes the possibility or the need to ‘de-pathologize’ the produced difference, by identifying and desiring it. The body is produced to an unbearable degree of explicitness, a process in which performer and spectator become accomplices. Both become responsible for the production of each other’s identity via the body image or the body schema: the performer because s/he produces this explicitness, the spectator because s/he witnesses this explicitness and partly identifies with it.

But what if the witnessed bodies transgress the limit of identifiability or the possibility of complicity? What about this other dimension of performance in which the body is suffering, tortured, smelly, incoherent and torn apart? What if a body starts leaking or if bodily in-depth dimensions that are not only implicit but also *invisible* and hidden surface?

5. *A concealed dimension brought to the surface: the in-depth body*

5.1. *The in-depth body as source of emotions and subjectivity*

Body image and body schema are dimensions of a stratified body that are situated in the *surface* dimension of the body. In other words, they

belong to the sensorimotor body that is or can be brought to awareness. Accordingly, some philosophers (cf. Leder, 1999) point to a limitation in Merleau-Ponty's writings: his project is limited to the sensorimotor *surface* body. Underneath these bodily dimensions of body image and body schema, another, in-depth bodily layer can be traced—a bodily dimension often neglected or forgotten, maybe because of its relatively silent performance. It is a dimension *beyond* the sensorimotor body accounted for by Merleau-Ponty and by subsequent research into body image and body schema: the dimension of the viscera (including not only guts, but also heart, blood vessels and sometimes skin) and interoception or the sensitivity for stimuli originating inside of the body (cf. Cameron, 2002). This in-depth bodily dimension largely escapes conscious awareness and focused attention. Yet, it may be a dimension crucial for the representation of one's own body—crucial but concealed.

The in-depth body is a dimension we mostly are unaware of and which is extremely difficult to master once it surfaces. Moreover, this in-depth dimension is closely tied not only to the secret operations of our body, but also to this most dangerous yet most rewarding part of our existence⁸: the passions or emotions.

In Damasio's work (1994; 1999; 2003), brain structures that regulate emotions and vital body functions are intimately intertwined. In other words, the biological regulation of the human organism is intrinsically related to emotions and feelings.⁹ The general idea is that the *representation* of our own body is the indispensable frame of reference for that which we experience as our conscious mental life. It is the point of departure both for the constitution of the world and the feeling of subjectivity (cf. Damasio, 1994). Taken together, that means that the representation of one's own body 1) is the basic theme of our feeling and thinking, 2) is indispensable for subjectivity, and 3) is the yardstick for the constitution of the world. This is an impressive task for the represented body, and the question at issue is how such a represented body differs from both body image and body schema as presented above.¹⁰

Damasio does not use the term *body image* for the representations of in-depth bodily states based on neural or chemical signals, but he talks of the *representation* of the body. Three subsystems in the somatosensory systems can be distinguished (cf. Damasio, 1999: 150). First, the section of the internal milieu¹¹ and the viscera. Second, the section of the vestibular system and the musculoskeletal system. Third, the section of fine touch. The first section is continuously active and signals non-stop the state of most

of the inner aspects of the body to the brain. The musculoskeletal part of the second section is also called proprioception or kinaesthesia. The brain is under most conditions being informed of the state of its musculoskeletal apparatus, whereas the vestibular system maps the coordinates of the body in space (cf. also supra). The third section, fine touch, receives signals from changes in specialized sensors of the skin, which undergo changes if they are in contact with an object of which texture, shape, weight, temperature and the like are examined. This section describes, in contrast to the section of the viscera and the internal milieu, *external* objects, based on signals generated on the *surface* of the body. The second section of the musculoskeletal system is situated somewhere in between, and can reflect both internal states and help to describe the outside world.

The representation of the in-depth body in the brain *precedes* any conscious awareness of the body. We are not aware of the several strata of our bodies in an equal degree, or in the same way. Normally, we are not explicitly conscious of the in-depth body, whereas we may be conscious of musculoskeletal information, and we easily have access to fine touch information. This latter information is topographical, whereas information from the in-depth body is much less topographically organized.

The representation of the in-depth body has an extremely *personal* origin, as it reflects the core of our body, its deepest inside, i.e. the viscera and the fluids running through our bodies. Yet, the representation of the in-depth body in the brain can also be considered sub- and pre-personal, since it refers to a most *anonymous* bodily layer. "The perceptual subject is a later thing, arising out of a fetal state of impersonal circulatory and metabolic exchanges. Nightly, in deep sleep, I slip back into this existence, abandoning my sensorimotor sheath." (Leder, 1999: 200)

In-depth body states and changes are represented in the brain and as such they are the *object* of neural representations. Yet, they are not an object for the *subject*, but rather have the status of necessary condition for the *possibility of a subject*. Interoceptive processes inform the brain about what is going on deep inside the body. These bodily changes in the in-depth body often are changes caused by an emotional response to an object or situation. These emotional responses at the level of the viscera and the in-depth body as a whole are represented in the brain and may enter awareness as *feelings*.

Moreover, the dimension of the viscera and the internal milieu is not only the basis for emotions and feelings, but also the *constitutive* basis for the formation of a self, and eventually supports consciousness (cf. in

particular Damasio, 1999). The self is a reflection of and arises from an in-depth bodily dimension, i.e. from unconscious, in-depth roots, the subject hardly has access to.

5.2 Performance and the in-depth body

It is this in-depth body that sometimes surfaces in performance. The body, usually constructed but also constrained by social requirements, is turned inside out. Digestion, excretion, procreation and other in-depth bodily processes are rendered visible. The deep and thus 'lower' strata of the body are emphasized over the higher levels. To open this in-depth body or to render visible its intimate strata make the closed, private and self-sufficient processes of the in-depth body surface. Suffering and leaking bodies are shown: blood, urine, semen, and mucus often are brought to visibility in performance. To show these bodily substances is not only to show the beauty they have, as in some of Andres Serrano's works, but also to show the taboos they embody. Especially in the 1960s, the effect of opening up the in-depth body and letting its viscera and fluids come out, was shocking. The violation of the boundaries of personal space, the violation of the social or physical invisibility of in-depth body parts and processes was enacted in often ritualized performances. The enactment of breaking taboos often caused the artist to undergo a kind of transformation or catharsis. To expose the sick body to the audience could imply a process of healing or purification. Bodies that leak may present culturally or socially wounded bodies that are stigmatized as female, homosexual or ill. Bodies spit, shit and vomit to embody their abjectness. To show the in-depth body or to let it surface is to show the 'abject' domains and functions of the body. It seems the ultimate and most subversive way to massively mobilize the body in performance, and to massively mobilize emotions and the core of the subject.

Performances with blood and viscera can be very powerful in order to provoke and free visceral sensations and thus emotions, and the intimate connection between viscera and emotion is used and exploited. A very famous example is of course the work by Hermann Nitsch, for example, his *1st Action* (1962), or his *80th Action* (1984) of the *Orgies-Mysteries Theatre* in Austria. In these *Actions* of ritual sacrifice and destruction as a means for purification and catharsis, blood is poured out over naked men and they are covered with intestines of slaughtered animals.



Hermann Nitsch: Photograph of the *80th Action* in Prinzenhof, 1984.

Source: <http://arcotheme.chez-alice.fr/thcor.html>



Jayne Parker, *K*, 1989.

Source: www.tate.org.uk/britain/artistsfilm/programme3/bodyobserved.htm

Another telling example is Jayne Parker's *K* (1989), in which the innerness of the in-depth body is turned inside out, as to free the intimate space of all that has invaded it.

In *K* I bring my intestine up out of my mouth and let it fall in a pile at my feet. I take the end and proceed to knit, using my arms in the place of knitting needles, until I have knitted the whole length. I hold my knitted intestine in front of my body so that it covers me. I bring out into the open all the things that I have taken in that are not mine, and thereby make room for something new. I make an external order out of an internal tangle. (Jayne Parker quoted in *Body as Membrane*, 1996, quoted in Warr & Jones, 2000: 130).

A third example is Mona Hatoum's *Corps étranger* (1994), which consists of a cylindrical white enclosure with two openings through which the spectator may enter to stand over a large circular video projection of

a medical scan of the interior of the artist's body. Penetrating into various orifices, the scanner takes the spectator on a ride along the channels of digestion, reproduction and defecation, through opening and closing valves where body liquids stream. A soundtrack of her own breath and heartbeat accompanies the video. At odd moments the camera resurfaces to the outside of the body, and the spectator sees giant pores and hairs. Then the camera plunges back inside on its disorienting journey through the inside landscape of Hatoum's in-depth body.



Mona Hatoum, *Corps Etranger* (1994), video installation.

Source: http://creativetechnology.salford.ac.uk/students03_04/paula_garcia-stone/Creative%20Technology%20.htm

Although these three examples pertain to the in-depth body, there are remarkable differences between the ways in which the in-depth body surfaces. In Nitsch' *Action*, a certain violent intimacy with the inner body is sought for, in taboo-breaking and very bloody rituals. The in-depth body is approached via destruction, it is broken open, excavated and stuffed again. The participants are covered with intestines and blood, and this contact with that which—in ordinary circumstances—largely remains at the inside of the body, sets free 'visceral' emotions that may have cathartic effects. Here, the literally intimate link between the in-depth body and emotions is fully exploited and exemplified. Performance of the in-depth body has the ample potential to be transgressive, both in the sense of transgressing the physical body and its relative closure as in the sense of transgressing the limit of ordinary feelings towards the source of emotions.

Parker says "I bring out into the open all the things that I have taken in and that are not mine," and she adds that she makes an external order out of an internal tangle. Here, the body is turned inside out, and what was inside, is adapted to the more familiar order of what is outside. With her arms, she knits the whole length of her intestines; once knitted, they can cover her. Parker points to the fact that the in-depth body belongs to another world, which has an order that is different from the outside world. Her activity of knitting seems to mediate these two orders, or to turn the strangeness of the intestines into the familiarity of something like a cover or a dress. Moreover, what is at the inside of her body is not hers, is taken in but has remained strange and therefore has to be removed in order to secure her (and her future: letting in new things). The act she performs no longer has the violence Nitsch' performance exhibits, and shifts from a transgressional-emotional ritual to a more mastered but still upsetting communion with the in-depth body. In this, one tries to cope with the strangeness of the inner body.

Hatoum's *Corps étranger* seems to be a further exploration of the strange, the impersonal, the distance, and the obscurity of the in-depth body and the unfamiliarity of the subject with it. The in-depth body is penetrated via the medical gaze, it seems a journey in outer space: the in-depth body is a long way off and is explored as unknown area. The violation has become much more sophisticated: not only does the in-depth body appear as a strange domain, the idea of the penetrating and violating gaze of the camera in the most intimate yet most impersonal regions of the body causes discomfort. Here, the in-depth body is not mastered by the subject, but by an equally

anonymous gaze: two anonymities seem to meet and to produce the visibility of the in-depth body. A sophisticated mastery over the in-depth body is obtained, but the spectator can only remain at a distance, caught by the spectacle of an anonymous gaze that explores the anonymity of the in-depth body. The fact that the spectator is threatened to be engulfed, and the mobilization of whatever emotional attitude in the face of this impersonal intimacy seems to prevent any sort of mastery by the spectator. S/he is handed over not only to the anonymity of the in-depth body, but also to the anonymity of a big impersonal eye that does not permit identification.

6. Conclusion

The aim of this contribution was not to explain (a number of) performances and related phenomena in terms of their theme or subject matter. Rather, the aim was to focus on the body as instrument or means in performance, and on the various ways in which the body can be used, in the same way as paint, brush or canvas can be explored in regard to their possible use. Yet in the case of performance, the situation is somehow more complicated, as the tool is at the same time the object of the work of art (and sometimes an object explicitly presented *as a tool*). The fact that this body, this tool, this object of the work of art is a human subject, renders the issue even more complicated.

Therefore, instead of trying to elucidate performance and related phenomena in terms of the subject or the topics treated, this article has tried to elucidate performance in a different way. To approach the body in terms of its constitutive layers, enables us to conceive of the mechanisms that make performances possible and operational, i.e. those bodily mechanisms that are implicitly or explicitly controlled or manipulated in performance. Of course, the exploitation of these bodily layers is not solely responsible for the generation of meaning in performance. Yet, it is that which fundamentally enables the generation of sense and signification in performance. For example, in performance, a gesture or a bodily posture could not be turned into a political gesture or into a posture with political implications without manipulating or summoning in some way our tacit (bodily) knowledge of movement and motor behavior (i.e. the body schematic aspect).

To approach the body in terms of its layers, from body image to body schema to in-depth body, may partly answer the complexity at work in art performances, since these concepts enable us to consider, on a theoretical

level, the body as represented object, as subject, as motor means for being-in-the-world, as origin of subjectivity and emotions, as hidden but most intimate place of impersonal life processes, as possibly distant image, as sensitive, fragile and plastic entity, as something we owe and are owned by, as our most personal and yet extremely strange body. At best, this short exploration of the body in performance is continued in a more detailed and adequate way.

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Notes

¹ This section relies on Warr & Jones (2000).

² Later on, the focus on the gesturing body was often experienced as exaggerated and was consequently parodied in the 1960s and beyond. Cf., e.g., Shigeo Kubota's 'Vagina Painting' (1965) in which she fixed a brush to her crotch and in which a female process of painting is presented that transformed the 'male' and 'heroic' ejaculatory way of painting by Pollock. At the same time, Yves Klein's use of the female body as an instrument for painting was parodied.

³ The second and the third aspect need not be *conscious*, but as a set of beliefs or attitudes they are part of the intentional system.

⁴ The conceptual distinction does not hinder the fact that body image and body schema are functionally interrelated at the level of behavior. For example, the body image contributes to learning and developing novel movements and motor skills, and to turning them into habits. The role of the body image is rather clear here, because these learning processes require a certain degree of perceptual awareness of the body. (cf. *ibid.*: 385).

⁵ We rely here on Cole et al., 2000.

⁶ "These observations might reflect the involvement of two separate components. First, there is a bottom-up process of integrating synchronized visual and tactile percepts, which is a necessary condition for producing the RHI [rubber hand illusion]. Second, this process produces persistent, vivid phenomenological changes in body representation, namely, the experience that the rubber hand is part of one's own body. Moreover, the content of the changed body representation might be quite different from, and goes beyond, the perception of correlated visual and tactile stimulation." (Tsakiris & Haggard, 2005: 80) In other words, both changes in body schematic and body image aspects are a necessary condition for producing the illusion.

⁷ This fits the body as commodity, a superficial, clean and commercial body of mass production.

⁸ At least, this is the way Descartes characterizes the passions in his *Les passions de l'âme* from 1649.

⁹ Damasio uses 'emotion' and 'feeling' to designate two different things. "Emotions and feelings of emotions, respectively, are the beginning and the end of a progression, but the relative publicness of emotions and the complete privacy of the ensuing feelings indicate that the mechanisms along the continuum are quite different. (...) I have proposed that the term *feeling* should be reserved for the private, mental experience of an emotion, while the term *emotion* should be used to designate the collection of responses [in the brain and in the body], many of which are publicly observable." (Damasio, 1999: 42)

¹⁰ For a more elaborate answer, cf. De Preester H. (2004b, in press). 'Body Image and the Visceral Dimension', *Theoria et Historia Scientiarum, International Journal for Interdisciplinary Studies* Special issue: Consciousness, emotion and self-organization Vol. 7(2).

¹¹ The internal milieu is the environment in which each cell of the body lives. It consists in the extracellular fluid surrounding the cell. From it the cell takes oxygen and nutrients and it excretes waste in it. The internal milieu must be maintained within narrow bodily conditions such as body temperature, pH, volume, water content, concentration of dissolved substances (e.g. sugar), etc.

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