Index.

STANISLAVSKI MEETS EMBODIED COGNITION.
How an acting practice illustrates a philosophical theory and clarifies its limits.

A Personal Introduction.
This thesis can be seen as an effort to bridge two gaps at once: one between mind and body, the other between theory and practice. In the effort the two even turn out to be related.

When I was a boy - I may have been eleven - I stood in my room and was suddenly struck by the thought that you always need an example. I do not remember any event or situation causing this unusual thought, nor any special activity following it - I took it as a clear piece of intuition and went on with my business. In fact it never left me since.

I come from a practical, artistic background. I am schooled as a filmmaker, as writer and director. Later I schooled myself in the theater, in the same functions. Both filmmaking and working in the theater are first and foremost practical undertakings. There is little theory involved, and theorizing itself is not popular. When, after 25 years of working in these fields I decided to take up a part-time study of philosophy, this may have been caused by the wish to recover some theory behind the practice.

Philosophy is a theoretical undertaking. Epistemology, the theory of knowledge and knowing which forms my specialization, is itself a theoretical subdivision of an already theoretical endeavour. The danger of leaving the ground to build thoughtcastles of abstraction in the air looms large over this part of philosophy.

So when I read Varela I was reminded of Stanislavski. Let me explain.

Varela's theory of *embodied cognition* bridges a notorious gap in philosophy: the one separating body and mind. Traditionally, the emphasis in the philosophical arena, has been on the exploration of mind and the related concepts of thought, reason and intelligence. Descartes put thought in the center of human experience with the most famous soundbite from philosophy 'I think therefore I am', but he certainly was not the only philosopher to favor the human mind over the body, and reflective reason over direct experience.

When during my studies I encountered the new trend of 'embodied cognition' (through chapters from Varela's book *The Embodied Mind*)[1] I had the exciting feeling that here was a theory in the fundamental realm of epistemology which would put things in the right perspective. The modern term 'cognition' covers not just knowledge, but all conscious mental states human can beings be in. Cognition is what the mind does. And mind is traditionally taken as being different from body. The promise of the new theory is that, by showing that cognition is basically embodied, it will chain the mind to the body and thus to the groundfloor of living. Putting the cognitive capacities in the sobering perspective of a human body that we all know intimately, seemed to me just the right move.

Still it is a theory, and I wanted an example. Varela's examples, from biology and Buddhist meditation, did not convince me as being representative for all of the human mind. In other writings on Embodied Cognition comparisons are made with the field of Artificial Intelligence; then the artefact of the computer is used as a model for the human mind and/or brain, of which it itself is a product. I thought an example might be found closer to home, in the field of Human Intelligence. It comes from the practice of acting on the stage, as explored by Constantin Stanislavski.

Stanislavski's 'System' is an acting method, almost a century old, in which mind and body are intimately tied together. It provides a way of reaching cognition, such as feelings, through bodily activity - not haphazardly, but systematic, controlled and repeatable. Stanislavski in fact

established a sort of verified theory of acting, although he insisted on calling it a practice and shunned abstraction. And his System has not remained obscure or esoteric, it became the most influential practice in the theatre and then the cinema of the western world. That was how I came to know it and use it myself.[2]

When a theory proclaims cognition to be embodied one expects as a result a clear path to exist from this cognition to the body, and reversely from the body to cognition. The System practice makes a systematic use of connections between body and mind. I thought it might thus serve as a testcase for a philosphical theory about this relation. And so the two gaps come together, under one (attempted) bridge: I will take an example from my own practical experience to illustrate a promising theory. It will turn out to do more than that: it also shows its limits. And in doing so it sheds light on the gaps involved.

***

So here are my protagonists: Varela and Stanislavski.

This thesis presents a detailed comparison of their respective findings.

The confrontation of philosophical theory and acting practice can, I claim, give a face to the theory and function as its practical testcase. In doing so, it will highlight the workings of the mind in relation to the body as well as the world, showing how they are tied up in a basic triangle.

My first research question is:

Can the System serve as an illustration of the theory of Embodied Cognition?

The connected follow-up question is:

If so, can the acting practice also serve to show limits of the theory?

Put in a more epistemological vein the questions may be re-formulated thus:

Can the System show that cognition is embodied? And that áll cognition is necessarily embodied?

I will start out with philosopical theory. Chapter One presents a treatment of Varela's original philosophy of Embodied Cognition (or EC) as well as an updated overview of the field. Then the scope is enlarged to include a still broader philosophical perspective on cognition, as being embedded in social/cultural practices - presented by Schatzki, founded on Wittgenstein's legacy. After theory comes practice. In Chapter Two the Stanislavski system is described, historically as well as practically. Emphasis is on a series of basic exercises that are described extensively and then schematized. Here, besides on literature, I will draw on my own experience as a director as well as sometime actor.

Chapter Three is where the actual comparison is made. A basic agreement is noted, studied and complemented by results from cognitive neuroscience, highlighting the special role of mental imagery. From this agreement provisional conclusions are drawn about the nature and limits of embodied cognition. Philosophical consequences for 'mind' are discussed, then illustrated in a provisional model sketching how body, mind and world are related in a basic triangle.

In Chapter Four the limits of the agreement are further investigated, again taking acting practice as empirical testcase. Emphasis lies on the crucial role of language in the gradual disembodiment of cognition. A hypothesis of disembodiment through language is formulated and tested against scientific and philosophical views. Then again philosophical consequences are discussed and illustrated in two revised models: showing the architecture of the mind, and the basic triangle respectively.

Chapter Five summarizes the answers to the two research questions, lists the conclusions of this investigation and suggests some possibilities for further research.

Chapter 1.
THE PHILOSOPHY OF EMBODIED COGNITION.

a. Epistemology modernized; a short history.

Traditionally there was no 'cognition' in philosophy. There was 'knowledge', as well as the theory of knowledge, or *epistemology*. "What can we know?" was, according to Kant, the first of the three basic questions philosophy should adress. Epistemology considers the complex of man 'looking at' the world via *perception* (as well as at him/herself) and coming to think something about it. As a domain of philosophy it is thus closely tied to *ontology* (the knowledge of 'what there is') and even to *metaphysics* ('what there is beyond the physical'). These fields are often regarded as complementary, jointly laying the foundations for all other philosophy.

Inherent already in Kant's formulation is a split between the subject, the 'we' or 'I' that does the perceiving and knowing, and its object, the 'what'. Much epistemology before and since Kant shared this characteristic: it pictured a world 'out there' which is given and remains unchanged in the process of knowing, and a subject 'in here' who does the knowing and is changed by it. The suggestion of this *objectivist* view, is that 'knowing' means holding up a mirror to nature and retrieving the fixed, given data from it. This picture could owe some of its appeal to the sheer difference in size between mind and world, causing a certain humility in the knowing subject. But in fact emphasis may lie on either side of the split: in objectivist *realism* a pregiven outer world is discovered by the subject; whereas in (subjectivist) *idealism* the subject's pregiven inner world is projected outwardly. I will limit myself to the more popular objectivism.

If we would picture the traditional act of knowing we see a human being perceiving the world, and in his head forming a clear picture of what is out there. It seems only logical, but in fact this is not the only possibility to conceptualize the process of perception and knowledge, as we will see.

The other characteristic of traditional epistemology is that it makes knowing the exclusive activity of the mind. When we present the operative field of epistemology as a triangle cornered by body, mind and world, body is the forgotten corner throughout traditional philosophy. The body was only there, it seemed, because it provided the sensory apparatus and functioned as a container in which Mind could exist. Body[3] was relegated to the function of necessary interface between a central mind and the world, providing sensory input and being provided with some output, after Mind had done its 'knowing' job.

Descartes is often seen as the godfather of this traditional stance; his famous dictum *cogito, sum* gives the most concise expression of the dualistic view, containing both subject-object split and disembodiment.[4] Through his large influence in western philosophy Body for centuries was treated as an entity of little importance, a sort of second order form of living.[5]

The dualist view with its subject-object distinction was challenged by different philosophers at the end of the nineteenth century, then frontally attacked by Husserl's phenomenology, followed by the approaches of Wittgenstein and Heidegger in the 20th century. Of these only Husserl took an active interest in epistemology as well as in scientific theory - which makes him stand apart, still belonging to the objectivist tradition. Wittgenstein wrote mainly on language; Heidegger had as his subject life in its most fundamental aspect, that of being. What they had in common was a turning away from the path of objective knowledge including the traditonal epistemological concepts, amounting to a rejection of traditional theorizing as such. In its stead came a turn to the practice of actual living.

A host of other philosophers followed in their footsteps, from different backgrounds and taking up different causes - from the pragmatics of Rorty, the hermeneutics of Gadamer to the postmodernism of Derrida - but united in their rejection of the dualist scheme, which Heidegger had claimed to be underlying all metaphysics before him. Instead some kind of holism was favored,

whereby the opposition of subject-object was made to disappear, or submerged in some
larger unity, or at least bridged. Still the bridges, even those of practice, remained largely theo-
retical, entities produced by the mind. The physical dimension was still hidden, the traditional
underevaluation of body was not explicitly challenged.

The early exception to this 'consensus' was the work of French philosopher Maurice Merleau-
Ponty; a one time friend and collaborator of Sartre, in the nineteenforties he also worked in the
new tradition of phenomenology but remained largely in the shadow of his existentialist
colleague. Following closely in the footsteps of Husserl, the thrust of his work is to overcome
the dualist split of epistemology and to re-establish the 'direct and primitive contact' between
consciousness and the world, because they belong together and actually establish one another.
Merleau-Ponty points out that 'the world is not what I think, but what I live through'. His
phenomenology stresses the natural bond of man and world and wants to put things in the right
order: 'We must not wonder whether we really perceive a world, we must instead say: the world
is what we perceive'[6] This view denies the existence of some deep problem of reason or
perception of the world; rather we and our consciousness are defined by the contact with these
very same entities and can not be separated from it, just as two dancers can not be separated
without breaking up the dance itself.

Where Merleau-Ponty differs from Husserl's intellectual approach is in his emphasis on the
body. The claim in his main work *Phenomenology of perception* is that perception can not be
understood in abstraction from the body. '(..)the thinking subject must have its foundations in
the embodied subject' (p241). Body should be understood not as an object in the world,
separated from Mind and observed by it as if from a 3d person perspective - Mind and Body
belong together, making up a first person perspective. This is the level which is central to
phenomenology, of experience: 'The experience of one's own body runs counter to the
reflective procedure which detaches subject and object from each other and which gives us only
the thought about the body, or the body as an idea (..)' (p198)

When picturing this form of knowing one should use a dynamical film-image rather than a static
one, of bodies moving together, interacting and *both changing* in the process. One would need
an animated cartoon, say of two indefinite forms pushing and pulling and in the process
evolving into other shapes.

<div align="center">***</div>

During the 20th century the notion of traditional epistemology, tied as it was to the old split and
the concurrent objectivist metaphysics, seemed to have outlived itself. A part of hilosophy
following Russell and Wittgenstein took the 'linguistic turn', turning away from the vague
notion of mind to study the much more concrete phenomenon of language as the basic tool of
knowledge. This development ran parallel with the influence in psychology of *behaviorism*,
which declined to study anything as unmaterial and intangible as a 'mind', prefering instead to
stick to the visible characteristics of behavior. Thus epistemology in the anglo-saxon world
became submerged in the (analytical) philosophy of language, whereas in the 'continental'
tradition it survived as a part of phenomenology.

The trend changed around the middle of the 20th century, primarily as a consequence of the
promising developments in computer technology. The rapidly developing field of Artificial
Intelligence was expected to shed new light on human intelligence, as were the new direction of
cognitive psychology and the emerging new technologies for neuro-imaging. The combination
of these research directions eventually led to the birth of *cognitive science*. Instead of the
philosophical 'mind' it was now the actual, material human brain that became the center of
attention. This is when the term *cognition* came into being; roughly meaning all that the mind

'does'. So cognition is a wider term than knowledge, comprising all processes that are conscious, including feelings, and all to be localized somehow in the brain.[7] In its wake philosophical interest in the workings of the mind was renewed; the new 'Philosophy of Mind' closely watched results from cognitive science.

The reigning paradigm at first is *cognitivism:* in it the human mind is pictured as a sort of computer. The basic intuition is that intelligence resembles computational ability and cognition can be seen as information processing: a computational processing of inputs and outputs, just as it takes place in the newly developed computers. The inputs come in the form of *symbolic representations*, these are then manipulated by the brain and lead to symbolic outputs.[8] Much of this has become entrenched in our everyday view about the way our brain works, so much so that in fact it is hard to remember that the human brain and mind are then in fact modelled (and simplified) after the example of a machine. Note that the cognitivist paradigm - and its associated notions of *computation*, *representationalism*, and *symbolism* - echoes the philosophical paradigm of Cartesianism by ways of a computer metaphor. The cognizing brain passively receives information from the senses, computes and sends commands back. Self-evident as the paradigm may seem, it would come under attack as had its philosophical predecessor.

In the late 1970s the alternative of *connectionism* gains strength. The main criticism of symbolic information processing was that it is localized and sequential, and therefore slow and plump compared to the reality of human cognition. Also cognitivism could not account for the enormous amount of feedback and looping circuits operative in even the most simple cognitive task, which makes the behavior of the whole system resembling 'a cocktail party conversation much more than a chain of command'[9]. Cognitivist architecture had moved too far from biological inspiration, the new model now moves closer to biology. It centers on neural networks as carriers of information, the associated characteristics being *non-linearity*, *distributedness*, *global properties*. The new model allows for self-organization within systems, or as it is rather called, for *emergence* of cognition. It still shares with cognitivism a reliance on representation as the central concept.

Meanwhile research of the real, human brain developed as quickly. An important tool in early brain research was measuring brain activity by means of EEG apparatus. In the nineties the advent of sophisticated brainscan apparatus caused a huge upsurge of interest in the brain and its workings. Neurobiology became the science to watch, and still is. Its major tool is neural imaging through fMRI (functional magnetic resonance imaging) and PET (positron emission tomography) scans. It gives scientists 'at last' the possibility of looking into the brain and seeing what actually happens there. The strong suggestion is that not only the brain, but also the mind will be trapped in these scan-pictures - making philosophical speculation about mind redundant. Today philosophers are closely looking on, over the shoulders of neurological researchers, side by side with psychologists, linguists and practitioners of AI.

Cognitive science now is a collection of different sciences - psychology, artificial intelligence, linguistics, neuroscience, anthropology - interested in the actual processes and events in the human or artificial brain. In this large new home also the old epistemology is now lodged. But its emphasis has shifted, from 'knowing' as done by a 'perceiving and reasoning mind' to 'cognizing': a wider notion, embracing other activities of the mind, such as feeling, believing, desiring, in short the whole gamut of 'mental states'.

Let me restate what we by now have come to understand as the meaning of some key terms.
Body = the individual human body, containing the brain.
World = all of the environment surrounding Body, including other humans.
Knowledge = the totality of mental states related to facts about World, Body and Mind,

formulated and certified in some way. According to classical epistemology: the totality of thoughts that are justified, true and believed.

Cognition = the totality of thoughts, feelings and other mental states of a human.

Mind = the carrier and executer of cognition.

Brain = the nerve center of the human body, supposedly the seat of the mind.

If one notices a certain circularity in some of these definitions, this is exactly the point. Some of our most used concepts, such as 'thinking' or 'knowing' are in fact based on loose, circular definition. Still, an explicit defining of terms is a necessary step in the process of reviewing some of these concepts, such as Mind, that we consider to be well-known and clear.

***

Already in the sixties analytic philosopher W.V.O. Quine stated that to overcome its inherent objectivism epistemology would have to be 'naturalized', meaning it had to be reduced to the findings of psychology.[10] Twenty years later an attempt was made for such a reduction, but to another science. Epistemology was biologized. A new answer to the old philosophical questions was formulated by a duo of somatically trained scientists, Maturana and Varela. Not surprisingly considering their background, it involved a rediscovery of the body. This approach was continued by Varela et al. and led in 1991 to the hypothesis of '*embodied cognition*' - which finally takes the step of opposing both subject-object split ànd the disembodiment of philosophical tradition,[11] explicitly taking up the thread of Merleau-Ponty.

By then they were not alone. Efforts in the same direction were undertaken by a multitude of researchers from different fields, all discovering what Varela calls the 'fundamental circularity in the mind of the reflective scientist',[12] and trying to account for it in their theories. TEM gives a schematic overview of the new directions in cognitive science, picturing embodiment as the outermost of a series of concentric circles, starting from the common center of cognitivism. One might see this picture as the gradual climb out of a pit, as performed by cognitive science.[13] The agreement between different approaches lies in a restoring of Body to its rightful place in the epistemological triangle, taking up a place of significance in the interplay between mind and world. Or in the words of a commentator: 'there is a growing commitment to the idea that mind must be understood in the context of its relationship to a physical body that interacts with the world'.[14]

The approaches in the outer ring - originating from linguistics, AI, cognitive psychology and philosophy - together form the somewhat loosely bounded research program of *embodied cognition* (or EC). I will limit myself here to philosophy and epistemology, where EC forms a radical new branch. Its contents will be expounded by an exposé of Varela's original concept of the embodied mind, followed by an updated overview of current theories in the field. This will be complemented by the presentation of a closely related, even more radical view from philosophy: the Schatzki/Wittgenstein view which embeds embodiment and cognition in the larger framework of socialization. Together they provide the theoretical elements necessary for a comparison of the new philosophy with practice.

b. Varela: the Embodied Mind.

Maybe it took an outsider's view to see cognition in another perspective than the one provided by traditional philosophy. For Francisco Varela and Humberto Maturana, Chileans schooled in biology and medicine, cognition was a naturally embodied process. Their jointly written *The Tree of Knowledge*,[15] is the first of two seminal books in the formulation of the theory of embodiment. Building on the study of natural growth of organisms, they take cognition as basically just another organic activity, a form of interaction between organism and its

environment. And instead of a split between organism and world they present the concept of structural *coupling*. Cognition, rather than a disembodied process accomplished by an entity called Mind, thus becomes largely a matter of Body meeting World and vice versa.

Structural coupling is the name for stable interaction between systems. The authors use it 'whenever there is a history of recurrent interactions leading to structural congruence between two (or more) systems' (p75). It starts already at the cellular level[16], with micro-organisms in their habitat, where through coupling a second, metacellular unity is formed. Postulating this biological mechanism means denying a popular idea of evolutionary theory: there is no large, unchanging set of surrounding circumstances to which organisms adapt themselves in better or worse ways, there is interaction from the outset and when it endures *both* interacting systems will be changed. 'Environment and unity act as mutual sources of perturbation'(p99) An example from the non-living world is the structural coupling of automobiles and cities; the authors note that in its history 'there are dramatic changes on both sides'.

The notion of structural coupling in turn is applied to cognition. TOK deals mostly with simple organic, animal life, treating only in the last chapters explicitly of human beings. But according to the authors the mechanism of structural coupling stays essentially the same. Cognition starts with the appearance of a *nervous system*, which is basically just a connecting system between sensory and motor surfaces of the organism. In humans this system has essentially the same organization as in a simple multicellular organism, only with a greater variation of neuronal patterns.[17] The largeness of the 'interface' of the human brain accounts for an enormous variation in behavior. The nervous system participates in 'cognitive processes' by a. expanding the realm of possible states of the organism and b. opening new dimensions of structural coupling. That is what 'cognition' really is and does. (p157-159)

A good example, given in Varela 1991, concerns color perception and cognition. Color is shown not to be a pregiven, physical attribute, e.g. a certain reflection of surfaces. In fact color cognition can not be described correctly without taking the perceiving system into account, as well as influences from language and culture. The objectivist, physicalist approach to color is replaced by a view that treats color cognition as an emergent pattern in the human visual system: not the retrieving of something pre-existing, nor an outward projection of an inner state independent of surroundings. It is the result of an encounter between systems. (TEM p165-171)

Once this is accepted, knowledge and/or cognition come to be seen in a different perspective. Not as something special steered by exclusively human properties like 'reason'- but as just a form of structural coupling. Perceiving is not so much a 'taking in' of the environment, as an active 'applying to' and interacting with it. 'Knowledge' is nothing else than the result of this interacting with the environment. Varela speaks of knowledge 'whenever we observe an effective (or adequate) behavior in a given context' (p174). Emphasis is laid on the identity between cognition and action (p248): 'knowing is effective action'(p29). The nervous system does not 'pick up information' from the environment, it literally 'brings forth a world'.(p169)

Even language, the characteristic that sets humans apart from all other animals, is described as a form of structural coupling. It is a reciprocal coupling between humans, *lingualaxis*, comparable to the exchange of chemicals between insects as means of communication (p208ev). Through language the act of knowing brings forth our world, as well as ourselves. 'We are constituted in language'.(p232)

To understand the radicality of this view let us contrast it once more with tradition. Normally (acquiring) 'knowledge', our shorthand for the interaction between Mind and World, suggests not only a split between observer and world, but also it being quite a one sided activity. We have come to see cognition/knowledge as some intricate brain process, whereby the brain

functions as a kind of computer which is fed by inputs from sensors like eyes and ears, creating internal representatons of the world 'out there' to be looked at and worked on internally. Perception is a passive retrieving of information from the world. And 'knowledge' seems to suggest even more: that central in our brains there is a thinking 'knower', who is quickly combining sensory inputs into a representation of reality, ponders over this using his 'reason', evaluates and judges it - in fact the knowing process, as analyzed by Kant for instance, consists in so many different activities and categories that one's brain seems in need of an office with a staff to accomplish it all. Another big problem of this picture is the doubling of consciousness: when there actually is a 'knowing me' ín my brain, called 'consciousness', does this knower in turn not need a brain as well, including a... 'knowing him'? And so on. The infinite regress logically disqualifies the picture, still it is the popular way we tend to think about knowledge and consciousness.[18]

What Varela and Maturana suggest is a much simpler scheme, doing away with a central cognizer as well as with any doubling of consciousness. The biological approach of structural coupling presents a direct scheme: an organism interacts with the environment through its sensory and its motor surfaces. When it touches or is touched, the sensory system is activated, via nervous system it activates the motor system and reaction ensues. Perception can not be separated from the action it supports. 'Knowing' (e.g. that you are hit) ís exactly this interaction of sensory and motor systems, and nothing more. Materially the process consists in a series of mostly automatic activities in the neural system, neurons firing and chemical substances being transported. And that is all there is to it. What we have called 'knowing' is nothing else than a form of structural coupling of our organism with its environment, via body and neural system.

The other main theme in TOK is the issue of the *two perspectives*.
For an organism there is no such thing as its 'behavior'. It just interacts with its environment, and that's all. 'Behavior'is a term belonging to the perspective of an observer, who takes in both organism ánd environment and then observes some interaction. This is a different perspective, call it 'objective' or '3d person', built on a sharp distinction of entities and involving its own string of categories. Whereas under the formerly mentioned '1st person' perspective there are no such distinctions, nor are any categories formulated - the organism just 'does', or we might say: *experiences* its side of a structural coupling.[19]

The trouble in epistemology, according to TOK, arises from the fact that we as human adults, can hold *both* perspectives simultaneously and tend to mix them up in our descriptions. The 1st person as it were infuses and contaminates the objective view, creating two opposites within 3d person perspective: of objectivist realism and subjectivist idealism. Both maintain a clear split between observing Mind and World, both take representation as their central notion. But according to the authors both views are basically, biologically, mistaken and thus we are faced with two evils, making up the 'Scylla and Charibdis of epistemology'. A true theory of knowledge should avoid these rocks, and find a middle path.[20]

This path is found by maintaining a clear separation of perspectives and by emphasizing the underrated 1st person perspective. According to TOK it is all a matter of keeping the levels of description apart: internal dynamics are crucial to 1st person perspective, they are irrelevant to the perspective of the observer.

<div align="center">***</div>

The resulting approach is formulated explicitly in the sequel *The Embodied Mind*: here the theory of embodiment is elaborated in application to animals and human beings. Cognition is presented as *embodied action*. The book consists of two strands: one sketching the development

of the embodied view within cognitive science, the other making a comparison with theory and practice of Buddhism. I will limit myself here to the former aspect.[21]

Rejecting objectivism and the notions of a pregiven world or a worldless mind, a middle way is proposed of basic unification and entwinement of cognizing mind and world. Embodiment is distinguished from the predecessing paradigms in the Philosophy of Mind, cognitivism and connectionism, both founded on the notion of *representation*. Then the present approach, called *enactive,* is summarized:

World and man/mind interact by structural coupling. But World is not independent of the knower, they influence each other through mutual specification.(p150) Knowing really means enacting. What we are used to call knowledge (or cognition) in fact is the active embodiment of the meeting of human and world. This makes cognition essentially embodied.

Enaction (enactive cognition) is specified in two programmatic points:

1) Perception consists in *perceptually guided action*, meaning *sensorimotor enactment.*

2) Cognitive structures emerge from recurrent sensorimotor patterns that enable action to be perceptually guided.(p173)

I will elaborate both these points to make them less opaque.

With respect to the first point, concerning perception: In the traditional view Perception is one of the labels we learn to use in describing the biological process of what happens 'when we see something, think about it and act upon it'. As a category it is distinguished from subsequent activitiess, say abstraction, or judgment. Kant was a master at making such theoretical distinctions and putting them back together again in a definite structure. Perception then is a bodily activity, separated from what happens thereafter in 'thinking', which gets localized in the Mind. Both are separated from World.

In 'enaction' the biological basis of structural coupling is taken as the ground for the theoretical structure. Perception is for action. The eloquent example is an experiment that shows how small kittens after being obstructed in their movements, on release behaved as if blind. Perception turned out not to be a neutral visual mechanism extracting information from the world, but a guided process that links up visuals with and for actions. If the actions are blocked, the perception seems to be absent as well.[22]

Instead of a division we see a unifying of categories: perception really can not be distinguished from action, together they constitute 'sensorimotor enactment'. This puts Body in the center of any meeting with World, with Mind at best functioning as a coordinator, a sort of aid to Body.

As for the second point: cognitive structures arise out of the above mentioned sensorimotor patterns, and with them 'Mind' definitely appears. But these structures are defined as stemming from a repeated Body-World encounter pattern, forming a sort of summary or generalization of it. Mind is built up out of such summaries. This makes the cognizing Mind completely composed of Body and World elements. One may still call Mind the 'seat of cognition', but in fact it is shown to be linguistic shorthand for a multitude of generalized bodily patterns, to be put to further use.

As a result cognition is no longer a form of problem solving on the basis of representations. Our cognitions are dependent on our experience, derived from our coupling with the world through the sensorimotor system. Or in Varela's words: cognition consists in 'the enactment of bringing forth a world by a viable history of structural coupling'.(p205) As den Boer poignantly summarizes, this would mean that the mental does not have its own separate structure, existing apart from our bodies. It arises out of our basic state, which is body.[23]

This then is the radical meaning of the theory of Embodied Cognition: Mind arises out of the meeting of body and world. Enaction, the basis of cognition, intrinsically involves the body as

an active partner. This is what makes cognition 'embodied'. Cognition in turn is as dependent on Body and World as a tapestry is on its strands. From these descriptions it is not clear whether Mind could actually add anything new, maybe even non-embodied, to its own basis. That question will haunt this thesis, to be answered finally in chapter 4. For now we will stick with the new picture as presented by Embodied Cognition, pushing Body to the forefront of philosophical theory at the expense of Mind.

<p style="text-align:center">***</p>

As instances of verification of his theory Varela provides a few illustrations, in the form of research results and tentative theories of other scientists from different cognitive fields: psychological research by Eleanor Rosch on prototypes and concept formation, Evan Thompson's work on color[24] as well as linguistic research by George Lakoff, pointing out the physical basis of our use of metaphors.[25] (An interesting side reference goes to the pioneering work of Swiss developmental psychologist Jean Piaget, who in fact foresaw the 'embodiment' movement with his *genetic epistemology,* formulated in the fifties on the basis of research of child development; its central postulate is that the structures that enable knowledge can only be built up through and out of *actions* of the subject.[26]) Most of the afore mentioned researches concentrate on the way organisms perform the fundamental cognitive operation of *basic categorization* - and suggest a form of enactment to be operative, making the basic categories embodied. Another example is Mark Johnson's proposal that our general cognitive structures are *kinesthetic image schemes* (such as 'container', or 'source-path-goal'), which originate in bodily experience. These in turn make up the foundation of all our further specialized understanding, forming its embodied basis.[27]

'All' is the keyword here. The claim is clearly a general one: when the basis is embodied, the rest will follow automatically. But is that a necessary conclusion? Is all of cognition embodied even when its basis is? The 'weak claim' of Embodied Cognition, that it exists, is much easier to justify than the strong claim, that embodiment holds across the board of *all* cognition. In fact the book hardly provides evidence to sustain the latter claim, leaving an important question undecided.

In recent years it has not been answered conclusively. Since publication of TEM Lakoff and Johnson, combining their efforts, have taken up the theme of the embodied mind in *Philosophy in the Flesh*, presenting a generalized view of human cognition as being overall embodied. But the generality of their approach compared to the proof presented is open to criticism.[28] Strong arguments for embodiment can be found in the work of neurologist Antonio Damasio, but so far he has limited his research to the part of cognition concerning emotions and feelings, leaving the wider question unanswered.[29] (More on Damasio in chapter 3) Other elaborations can be found in the work of philosopher and robotics specialist Andy Clark. He refrains from too partizan a view, favoring an 'and-and stance' regarding embodiment and/or representationalist views. (More on Clark in chapters 4 and 5).

Varela himself in later publications concentrated on other topics, such as the similarities between the paradigm of embodied cognition and Husserlian phenomenology. He proposed a 'neurophenomenology' as suitable tool for research of the elusive first person experience, to bridge the gap between objectivist science and actual lived experience. The project was rudely interrupted by his death in 2001.[30] Which leaves the question as to the generalizability of embodiment still open, threatening EC's claim of being a universal perspective on cognition.

Embodied cognition thus stands as a challenging theory still in need of verification and falsification. I will make a contribution to this ongoing process, using a hitherto unused field of

practice to provide empirical data. If the philosophical theory is right one expects to find a clear connection, at least some kind of a connection, between Cognition as it exists in daily life and the Body.[31] This is where the Stanislavski stage practice can prove useful: serving as an empirical testground of the connection between cognizing mind and body.
But first we need an updated theoretical claim from EC.

c. Embodied Cognition updated.
At the start of the 21st century the 'biologized epistemology' has gained weight and momentum, amounting to something like a new paradigm. In fact so much research is done in different fields, all coming in under the heading of 'embodied- and embeddedness', that it has become unclear what 'embodied cognition' is exactly supposed to say.[32] The central claim of EC may still be formulated thus: 'that an organism's sensorimotor capacities, body and environment not just play an important role in cognition', but through their interaction 'enable particular cognitive capacities to develop and determine the precise nature of those capacities'.[33] But in fact this claim has become too general to cover the research.
In her 2002 paper Margaret Wilson specifies and studies the different claims that have come to fall under the collective term 'embodied cognition'.[34] She distinguishes six such claims:

1) Cognition is situated
2) Cognition is time-pressured
3) There is an offloading of cognitive work onto the environment
4) The environment is part of the cognitive system
5) Cognition is for action
6) Off-line cognition is body based.

After discussing the claims separately her conclusion is that of the first five only the fourth seems seriously problematic. The other four are viable and at least partly true, depending on circumstances. But in each case they are found not to be holding 'across the board'. Counterexamples are always possible, as is shown in a discussion of the fifth claim, cognition being for action, which is of course reminiscent of the first postulate of EC about perception.
Much cognition is indeed directly linked to action, as is illustrated by recent neurobiological research on perception, and memory. Instead of building up inner representations of the world, to be handled by 'higher' cognitive areas, perception is now seen as activating motor circuits directly. What is found in the brain on the neural level is a physical unity, that we have separated with category-names like 'perception' and 'action', suggesting a split (and even a higher control unit) where there really is a direct link. The direct link is all there is to this cognition.[35]
On the other hand this direct link does not apply to other parts of cognition, such as mental concepts. They appear to be 'to a large extent purpose-neutral'(632b) and not for action at all. So embodiment is present in this fifth category, but the category does not cover all cognition.
The most interesting item on the list is the last claim, described as the 'most powerful' and the one to which Wilson devotes most attention. To understand this we need to clarify the distinction between *online* and *off-line* cognition. The online variety points to situations of direct interaction with the things the cognition is about; in other words online cognition is *about* the action being performed. Considering the manipulation of pieces of wood while building a chair, or applying a hammer to a nail, are examples of such online cognition. This form of cognition is situated, as stated in claim 1, as well as 'for action'. But the range of these categories is limited in comparison with the number of cognitive activities that are not directly linked to action, unsituated, and decoupled from the environment. Examples given are the mental activities by which humans distinguish themselves: sophisticated tool-making, language and depictive art. 'These

abilities reflect the increasingly off-line nature of early human thought'(627a). To which one might add all use of memory or imagination. All such mental activity is called *off-line*.

In *off-line cognition* the direct link with action is missing. It takes place in the absence of task relevant input or output: for example planning, remembering, day-dreaming, fantasizing(626b). We can make plans for the future while constructing a chair, we can consider past events while hammering a nail. The question now is whether such offline cognition is also body based.

Wilson answers with a partial affirmation and suggests how this may come about. Many abstract cognitive activities may make use of sensorimotor functions, in a kind of condensed version. A mental structure originally made for action, confirming to claim 5, is adopted and then run off-line, decoupled from its original sources (633a). Examples are given from the fields of *mental imagery*, *memory* - especially episodic memory - as well as *reasoning and problem-solving*. They provide, according to the author, 'well established and non-controversial examples of off-line embodiment' (634a). In addition some more controversial variants are listed, that are still in research, especially from the field of linguistics: Barsalou's suggestion that mental concepts are built up out of simple embodied elements in *perceptual symbol systems*; and, again, Lakoff and Johnson's premise that much, or even all, thought is metaphorical and thus based on fundamental bodily schemes, rooted in sensory and motoric knowledge(634b).[36]

The subdivision in online and offline proves essential for a better understanding of EC. Wilson finds that online cognition in fact comprises categories 1 through 5 (with 4 excepted), as opposed to the sole category 6: off-line. She concludes that off-line aspects, though underrated so far, may prove to be the most powerful arguments for Embodied Cognition. Bringing it back to the basic triangle she finds that in online cognition 'the mind can be seen as operating to serve the needs of a body interacting with a real-world situation' (635a), whereas this set-up changes drastically where off-line cognition comes in: here 'we find the body serving the mind'. So after Embodied Cognition first restored Body to its rightful central place in the basic triangle of cognition, now in the off-line variant it turns out to... restore Mind.

The result is an ambivalent picture. In fact the EC-complex is two way ambivalent, due to its two forms. Online cognition is embodied but does not apply in all cases. And in the case of off-line cognition the embodiment may not hold across the board. Unclear as yet is what would cause or obstruct the validity of the offline variant. Certainly off-line cognition is the most interesting variant in a comparison with an acting technique, being the form which applies when a written text or verbal assignment is the basis for further activity.

Reformulating our expectation on the basis of the EC update, we still expect there to be a clear connection between off-line cognition and the body, but possibly not in all cases. As will become clear in the comparison with the System exercises, the acting practice itself can be seen as a conscious and controlled shifting from offline to online activity. In this process an important interface will be identified - the mental image - and the question of embodiment will then concentrate on this interface.

d. Social embodiment; Schatzki/Wittgenstein.

One corner of the triangle has been somewhat neglected in our treatment of cognition so far: World. The fact that individual sensorimotor capacities are embedded in a broader network of biological, psychological and cultural connections is indeed acknowledged and discussed by Varela and Maturana.[37] Still the complex of social, cultural and historical influences on individual cognition is largely considered as an extension of the basic principle of structural coupling - even language is seen in this perspective as a more or less harmonious prolongation of natural bodily interaction. What is not thematized is the possibility that the social complex

may come to stand in opposition to the natural, individual level, which might even have consequences for embodiment. To make room for this possibility and thereby restore World to its rightful place in the triangle we have, as it were, to step back and adopt a wider view. For this I will turn to a related modern philosophical theory.

In *Social Practices* Theodore Schatzki presents such a wide perspective on human cognition.[38] As the subtitle has it the book provides 'A Wittgensteinian Approach to Human Activity and the Social', thus linking the human activity of cognition to the social complex. The book is 'Wittgensteinian' in the sense that it was not written by Wittgenstein himself, but constructed by Schatzki out of his later and very last writings, such as the two-part *Remarks on the Philosophy of Psychology*, *Last Writings on the Philosphy of Psychology*, as well as *On Certainty* - all of which were published posthumously, up till forty years after Wittgenstein's death. These books in turn were edited out of loose collections of remarks, not yet shaped in any definite form for publication by its author. So the construction is somewhat speculative and at times owes much to other philosophers, as Schatzki freely admits.

Still in the first chapters the emphasis is clearly on Wittgenstein. These chapters take up the very Wittgensteinian notion of the influence of the social and socialization, which he first suggested in *Philosophical Investigations* with regard to language. Schatzki now extends this notion to the realms of mind and psychology.

As the title suggests the book is basically a study of social phenomena, but it starts out from the point of view of the individual. In the first of two analytical chapters the traditional view of human beings 'possessing' a body as well as a mind is drastically reworked. To this end the author introduces the new concept of Mind/Action/Body, in later chapters discussing its social constitution. Schatzki speaks of 'mind/action' as the new unit rather than 'mind', because as he states 'being an individual is above all having mind and performing action'(20). But this is not the mind as we are used to talk and think about, the one I have defined earlier as the executer of cognition. (Cognition itself is not one of Schatzki's basic categories, it is seen as part of the mind/action complex).

In ordinary vocabulary Mind might still be seen as a sort of substance, somewhere in the brain, forming the substrate of all the 'mental' functions. Schatzki/Wittgenstein hold a very different view: 'mind' is nothing but a collection of states of affairs about a person, expressed by his doings and sayings. This collection is largely social. 'Mind is how things stand and are going for someone, mental phenomena are aspects of this.'(22) These mental phenomena are called *conditions of life*. Conditions of life consist in particular inner and outer episodes (31). Take for example joy. 'Joy is expressed by inner and outer episodes, (..) which make joy present in the world and there isn't anything more in the world to being joyful than these episodes.'(32) But, contrary to popular opinion, the conditions of life are not an underlying layer that *causes* the appearances: they are simply expressed by them. There's no causality operative here. A 'condition of life' is summarized as being 'a state of affairs that (...) consists in, is expressed by particular bodily activities.'(34)

This is dense, complicated prose which does not yield its message easily. Paraphrasing we might say that what Wittgenstein is (said to be) doing here is taking a good look at our cherished concepts of 'mental states', such as feelings, desires, beliefs - and then dismantling them. Do we really 'have' these mental states and are they really as personal as we tend to think? Wittgenstein does not deny the reality of inner phenomena, but valuates them differently. What he denies is that they would possess any substance or causal efficacy. Already in *Philosophical Investigations* he stated that 'inner phenomena stand in need of outer criteria'.[39] What we call a 'state of mind', such as being joyful, in the end is nothing else than a name for a certain condition the person is in, which finds expression in the body. 'Experiencing joy' and the bodily expression of joy are just two sides of the same coin, and the mental state does not cause the

bodily expression (as we normally believe it does).[40] Note that 'expression' is used as an inclusive term in this context: it comprises not only behavior, but also inner expression such as bodily sensations and mental images. What is pointed out here is our tendency in matters mental to postulate 'something inner and underlying, causing the phenomenon', giving it a name and then reifying it - while it is really the other way around: the mental category is a name, coming on top of inner and outer episodes and summarizing them. The mental category in fact is only meant to make communication about the phenomenon possible, and thus is socially constituted.

Schatzki goes on to discern four main categories of *life conditions*. The first two are:
1) conditions of consciousness (e.g. being in pain, imagining)
2) emotions and moods (e.g. being joyful, depressive)
These are called the 'mental conditions', having a genuine duration (according to Wittgenstein) or uninterrupted expression throughout their existence (according to Schatzki).[41]
The mental conditions are complemented by:
3) cognitive or intellectual conditions (e.g. doubting, thinking, believing)
which lack duration and are not continuously expressed. Together these three categories form the psychological conditions of life.
The Wittgensteinian view of the 'inner life' can now be summed up as follows:
First it consists of sensations, feelings, images. These are private, but not substantial nor do they consist of objects. And the privacy does not mean that the person experiencing the sensations is the only one to attest to his condition. just that he has privileged access to them. (p40)
Secondly, the inner life is made up of 'conditions of life' in general. They compose 'the inside of life in the sense of the content of life, what is going on and how things stand'. This side is public, general life conditions being public phenomena, even so much so that Schatzki finds that this inside may be better understood by someone else than by the person itself.(p40-41)
The remarkable point of the view here expressed is that even our inner life, our mind, is made up of public elements, better said: it is socially constituted.
Now a fourth category of life conditions is added to complement the inner side:
4) 'Actions'. (what one is doing)
They are treated alongside the psychological conditions because they stand in the same relation with phenomena of life, being expressive of them. Finding it 'doubtful that there is any significant division between the realms of mind and action' Schatzki chooses to combine them in 'mind/action' instead of using the separate terms.(p39) Of mind/action it is now said that it is a publicly transpiring process, that 'must somehow be present in the public realm of sense experience'. It is so by the play of bodily doings and sayings.(p41) Public is again the keyword.
Note that next to doings *sayings* are also defined as a way of expressing the conditions of life; speech acts stand next to other bodily activities as ways of expressing. It is the *expressive body* that expresses all life conditions. But an important difference is noted as to the expression of the third category, because cognitive conditions 'lack characteristic expression'.(p43/44) This will prove an important distinction in the course of this investigation, to which we will return in chapters 3 and 4. For now it is important to restate the central point of Schatzki.
This is a radically new view of mind, in two ways.
First, Mind is shown to be a term covering a collection of states, that are always expressed through the body. 'Bodily activity is the appearance of mind, and mind is the expressed of bodily activity'(p54). Or in Wittgensteins own words: 'The human body is the best picture of the human soul'.[42] In my words: Mind is intrinsically embodied.
Secondly, Mind is presented as something profoundly social and public. Quite in contrast with our usual opinion that the mind is something very personal, even providing the exact spot where

personhood is constituted. Here it reads: 'Mind/action is a social institution, the body
that expresses it a social product'(p53). This embodied mind is socialized through and through.

In the next chapter of SP the social molding of the body is elaborated. The formation of the
expressive body starts in infancy; a child's body is entering into the world with an 'extremely
limited repertoire (..) of reactions'(p60) and is provided with these, as well as actively learning
them, mainly through the presence of others. Different stages and aspects of the learning process
and education are distinguished and shown to be social in nature. Apart from pain and
contentment, most conditions of life have no purely biologically determined expressions and are
socially established.(p71) The social complex echoes through these pages, its influence is
omnipresent to the extent that having reached adulthood 'any individual's being, doing and
understanding are not only interwoven with but, to varying extents, the same as others' (p83).
The commonality in turn stems from incorporation into practices, which are specified in chapter
4 and form the main interest of the rest of SP. This also marks the place where the philosophical
inspiration shifts from Wittgenstein to the Heidegger of *Being and Time* (p88). But for our pur-
poses the exposition of the mind/action complex, the expressive body and their social
constitution suffices.
In conclusion Schatzki redefines bodily activity as 'the socially molded appearance of mind' and
mind as 'the socially instituted expressed of the socially molded body'(p87). Or in simpler terms:
'An expressive body is produced from a biological body by enclosure within social prac-
tices'(p86).
In the Schatzki/Wittgenstein view not only cognition, but every human activity, is first of all
necessarily embodied. Moreover, this mind/action is profoundly socially constituted. One might
call this view *'socialized embodiment'*. In terms of the basic triangle, the emphasis has shifted to
the World-corner: both Mind and Body are found to be completely 'en-Worlded'. Is there still
an individual self distinguishable in this sea of communality? Yes, but even 'the individual is
socially constituted'.(p83)
Formulating once more, in view of our upcoming comparison, an expectation based on this
theory, it would go like this:
Cognition is found to be embodied and social, not or hardly intrinsically personal. Within
cognition cognitive/intellectual conditions may differ in their mode of embodiment from
emotions and moods, lacking characteristic expression.

Having thus laid down our expectations about embodied cognition on the basis of theory, we
will now see if and how they are met in practice.

Chapter 2. THE STANISLAVSKI SYSTEM.
The Stanislavski System should not be seen as a theory about acting, certainly when compared to philosophical theorizing. First and foremost it is a practice, containing a series of exercises to be used by the aspiring student. It was meant that way. With his series of handbooks Stanislavski explicitly wanted to lay down a practice for actors, which would actually be used.[43] Still the practice is based on a solid ground of ideas and theoretical presuppositions, formulated by its author. Both sides will be presented in this chapter.

The first section presents the System in the arena of the theatre, sketching its historical background, development and spread. The second section is an exposé of its practical workings focusing on a series of basic exercises. For purposes of comparison the exercises will then be reduced to a schematic presentation. This will lead to some preliminary conclusions, taken as basis for further discussion.

On the way philosophical criticism, blaming the system for a lack of solid theoretical underpinning, will be taken into account and answered[44]. What I hope to show is that the consequences of this System extend beyond its practical applications and that its findings can have bearing on theories concerned with the relations between Body, Mind and World. Better said: that a theory concerning the embodiment of human cognition should take them into account.

I. THE SYSTEM AND THE THEATRE.
a. Historical beginnings.
Constantin Alexeiev (1863-1938) had his love for theatre instilled from birth. As the son of a wealthy Moscovian merchant he enjoyed a happy childhood, including home education and regular outings to the circus and the opera. Moreover the Alexeiev family regularly organized performances of stageplays in their home, with all the children partcipating as actors. As told in his memoirs, *My Life in Art,*[45] one of his very first conscious memories is of a theatre performance, and it is a telling one: as a three year old kid Constantin is given the part of Winter in a tableau vivant. Sitting wrapped in a fur coat, on a stage filled with cotton balls for snow, the young child does not know what to do. Sixty years later he confesses that he can still feel 'The impression of aimlesness and (..) absurdity of my presence on stage' (p23). Bu he gets applause. Then in another tableau he sits near a lit candle and some firewood, suggesting a fire. Constantin is given a piece of wood but told not to light it, because it is only make-believe. But 'all this seemed nonsensical to me'. As soon as the curtain rises the small boy instantly lights the wood and sets the cotton on fire. He is swiflty rescued, then scolded, but retains a good feeling because 'it was pleasant (..) for there was meaning in that motion; it was a completely natural and logical action'.(p24) Looking back this first memory seems almost decisive for his career, in fact spelling out the program of his theatre innovations: overcoming emptiness and finding natural action on stage would keep him occupied for decades.

Constantin started his stage-career by taking charge of the home performances of one act plays, operas and operettas. Under his guidance they grew in scale and ambition, becoming popular social occasions, often visited by theatre professionals. When at 25 the family theatre closed because 'all my sisters were married', he had already played in and produced some 45 plays. This was followed by a ten-year period with his own amateur group, the Society of Art and Literature, producing and acting in some 60 full length plays as well as taking up the job of director. The theatrical activities were done next to a professional career, first as director of a music conservatory, later as a businessman. It was to guard his reputation in business that Alexeiev took on a stagepseudonym, adopting the Polish sounding name of a retired actor: Stanislavski. It would stick with him and his system.

Stanislavski (also: S) enjoyed the theatre, like any other young addict of this art. What set him apart was his very critical stance towards his own acting and his art in general. He finds himself

imitating other actors or teachers, including all their artificial poses. He finds he lacks a
'feeling of true measure' (p65), getting severely criticized after a performance which he
considers very expressive, or vice versa. Stanislavski regarded himself as too tall and too
clumsy on stage, tripping over the furniture time and again. Deciding to cut back on emotions as
well as motions and to aim for *truthfulness* and *faithfulness*, he reached this goal one evening,
then is unable to repeat it in a next performance, not knowing what to hold on to or even where
to look for it. Trying to make up for these shortcomings he searches the writings of famous play-
wrights and actors from the past, but finds the answers haphazard. Turning to living professio-
nals he is struck by a general reluctance of actors to teach others - or their inability to formulate
clearly. And when, on the strength of his experience, he is allowed entrance at one of Moscows
dramatic schools, he is completely unhappy with the theoretic approach taken towards acting:
'we were not taught our craft'. Bothered by 'the absence of fundamentals and of system' (p90),
he leaves the school and will remain autodidact.

Both the great love for and the critical stance towards the theatre would shape his career. In
general Stanislavski throughout his theatrical life was occupied by two main problems: the
artificiality and outwardness of stage acting, and the lack of a systematized training or an
explicitly formulated method. His quest to solve both can be seen as a journey of discovery into
hardly explored territory, the mind (and body) of an actor while acting.

Since this quest should be seen in the context of its times, we will allow ourselves a short
excursion into nineteenth century Russian theatre. Theatre was then a relatively young art in
Russia, practiced in organized form for only two hundred years, originally with serfs as
actors/actresses. Through the active interest of subsequent Tsars the theatre spread to large cities
and gained popularity with the budding new class of merchants and businessmen. Still, in the
ninetheenth century, a theatre performance served foremost as a social occasion and was hardly
the concentrated artistic venue we have grown accustomed to. As Stanislavski recounts, at the
opera the public would show up late and spend the time playing cards in their stalls, until a
favorite aria attracted their attention (p35). A live orchestra played in between the acts of any
stage play, stage-design was primitive and stage lighting was general, doing without the won-
ders of electricity. Moreover plays were performed in large auditoriums, forcing the actors to
strain their voices to be heard in the back rows. These were hardly the surroundings for an
intimate, true to life portrayal of human dealings, or even to think of its possibility - still that
was exactly what Stanislavski dreamed of.

As regards style 19th century Russian theatre took its cue from the French school of Representa-
tion, popularized by the Coquelin brothers.[46] In this style all emphasis is on outward
appearance: a stage role was made up of a study of gesture, movement, and speech. The result
did not much satisfy Stanislavski: 'it might delight you, but will not penetrate deeply'.[47] Nor did
he like its effects on the repertoire. In the representational school the classics like Shakespeare
or Pushkin were to be played in a certain, fixed manner called Gothic, Molière's comedies had
another style to them - all defined by external characteristics. Learning the style of Represen-
tational acting as practised by the Comédie Francaise can be seen as entering into a pre-fab mold
of motion and speech. *Stencils* is the name used by Stanislavski in MLIA, *rubber stamps* in
AAP. It is a general form of outward motion, often resulting in mechanical acting: tearing your
hair when in despair, rolling the eyes when desperate - in fact generalizations in the flesh.

Nowadays we would probably call this overacting or just plain 'bad' acting. But as Edie notes, it
is useful to remind oneself that in the second half of the 19th century acting and theatre were
considered a branch of esthetics, like gardening.[48] Psychology, a very young science at the time,
did not enter at all into considerations of theatre. But it was the connection that Stanislavski
sought.

b. Birth of a system.

Here is how Stanislavski would approach a role, say of an old man: First he would ask himself which actor he should imitate. Rejecting this approach he could fall back on an existing 'stencil', providing a general way to play an old man. But he came to hate this, 'the phrase *in general* is the bane of the theatre'.(p162) Then how can acting get more specific? He tries taking a picture, or a painting, as an (outward) example. And he seeks assistance from a director. This helps, leading to a less general, but still strictly outward performance. In a similar vein, concentrating on the slow speech of an ageing man helps him to overcome the feeling of emptiness on stage. These outer movements, when practised precisely, have an impact on the feelings of the actor. He notes that there appears to be 'a method from the outer to the inner, from the body to the soul, based upon an ubreakable bond between physical and psychical nature'.(p182) It seems a step forward, but S as yet considers it a sidepath, not having found the 'highway into the soul'.(p210) What does become clear to him is the need for the creation of an *inner life* on stage, taking place in the head (or 'soul' in early S parlance) of the actor while acting.

This is all the more necessary because Stanislavski still finds himself constantly threatened by looming dangers. He enumerates: 'the desire to be liked by the spectators, the actor's conceit and vanity, the straining of muscles, the squeezing out of temperament to make a show, and the mistaking of stage emotion for inspiration' (p162-166). Put generally, the problem seems to be that the actor's focus constantly strays to the audience and their judgment, instead of on the business he/she is supposed to do on stage. This leads to complete falsity, making S come to 'hate all the theatre in the theatre'.(p207) From now on the search is for truth and real life. These words echo throughout his autobiography: *sincerity*, *truthfulness*, *true to life*, *faithfulness to reality*, *nature*. Not surprisingly the theatrical style he subsequently develops has gone down in history as 'naturalistic'; but it was a label fiercely rejected by S himself. He saw himself searching 'not for an outer likeness, but for an artistic, inner truth' (p330).

In 1897 the meeting with playwright,director and critic Vladimir Nemirovitch-Danchenko proves a decisive turn in Stanislavski's career. As kindred spirits the two men found their own professional company, the Moscow Art Theatre (MAT), with the explicit aim of discovering a completely new form and discarding all old traditions. Only then Stanislavski becomes a professional of the theatre. In another ten year period, producing some 4 plays a year, he gets the chance to realize his project of a truthful theatre. Nemirovitch-Danchenko acting as manager and producer actively supports the efforts of director Stanislavski in laying the grounds for a new way of acting. In joint collaboration the men start out by doing away with all the 'ancient hokum of the theatre', such as cardboard panels, painted backdrops, an orchestra, ushers running around, intermissions, the audience applauding actor's exits, curtain calls, as well as the absence of contemporary authors. As regards style, the brand new troupe protests 'against the customary manner of acting, theatricality, bathos, declamation, overacting, the bad manner of production, the star system, the farcical repertoire'.(p330)[49] The MAT immediately starts a historical cooperation with new author Anton Chekhov, presenting all four of his now classic plays from *The Seagull* to *The Cherry Orchard*.[50] Another new author presented is Gorki.

Quite soon in these developmental years, through the collaboration with new playwrights, the Moscow Art Theatre achieved national fame and success. This did not mean that Stanislavski was happy. In the midst of success he still notes he 'appeared on stage empty of inner content'. Always a graceful writer, he never reproaches other directors or actors for the theatrical shortcomings he notices, but finds them exclusively in himself and his own acting.

Around 1906, after ten years as a professional, again completely disappointed with his own acting he takes a summer break in Finland. There he tries for the first time to systematize his findings and lay the foundations for what is to become a system. The development would take

many years, and the discoveries did not come easily. The introduction of the system
met with resistance from the company actors and time and again Stanislavski despaired of the truthfulness of his own acting in spite of his discoveries. Once he even tried the opposite, complete unnaturalness, only to return to his original quest. Some five years later the project has achieved fruition; Nemirovitch-Danchenko supports the founding of an additional Studio enabling Stanislavski to devote himself exclusively to the study and practice of the newfound 'System'.

The outcome of his past efforts was the need for the creation of an inner life on stage. 'Natura-lism on stage should be justified by inner feelings'(p403). But which inner feelings? The essential discovery of the system is that the **own** emotions/feelings of the actor can and should be used to fill in the gap. 'Do not portray anything outwardly that you have not experienced inwardly', S urges his students (AAP 28). This is nothing less than a revolution in acting. Because in the first instance the wish of any actor is to 'become' someone else, to portray the 'dramatic emotions and situations' of other, exotic persons like Macbeth or King Lear. But as Stanislavski shows, this reaching out for unknown entities like 'great emotions of somebody else' just cannot be truthful. Instead the Stanislavskian actor is invited to search his own expe-rience as well as his fantasy for analogous emotions - and use them. The new adagium becomes: 'Never lose yourself on the stage. No exception to the rule of using your own feelings. Always play yourself'.(AAP 167)
But how to get to these precious own feelings and how to secure them? Any human being gets sidetracked when put on stage, in the lights, gazed at by hundreds of silent watchers. How to remember a personal feeling in these circumstances? Here the System provides a practical method, based on 'principles of nature', expressed in clear concepts and a repeatable practice. The goal is achieved through a *conscious psychophysical technique* grounded on simple exerci-ses, partly based on recent findings of psychology, partly stemming from physical theatre practice. They involve the body as much as the psyche. Central to these basic exercises is the concept of the *'mental image'*. In section II the exercises will be treated of in detail.

In the Studio for the first time a play is produced which begins to satisfy the exigencies of the master. Clearly Stanislavski's demands were severe. But already in 1906 when the Moscow Art Theatre, fleeing the first Russian Revolution, sets up in Berlin for a series of impromptu guest-shows, their performances are praised in the press as presenting 'pure truth' (p447). The natura-list style, even when unbalanced and still without inner justification, was welcomed from the start. It embodied a huge and instantaneously recognizable break from all that was customary in the theatre. When the matured MAT finally traveled to Paris, Berlin and the USA in 1923/24, it caused sensation on Broadway, giving a record 380 performances of 13 plays. All the more remarkable beacuse all performances were in Russian.[51] Technically the MAT could not compa-re with the more advanced Broadway productions, but what impressed audiences, including a young Lee Strasberg, was the force of an ensemble without stars acting in a way that was 'true, real and emotionally full'.[52] The Stanislavski style was internationally hailed as presenting a new direction for theatre. By that time it had become a proud export product of Bolshevism and was actively supported by its leadership; under Stalin the System became obligatory in all Soviet theatre schools.[53]

c. Spreading the word.
Stanislavsky, at sixty still fully active as director and actor, was hesitant to put his findings in writing, fearing it would be treated as a dogmatic book of rules. Faced with the international success and demand, he started out with an autobiographical account of his stage life: MLIA

Urged on by his English editor, drama critic Norman Hapgood, he then took on the job of formulating the practice itself. Two parts were planned: one describing the inner preparations of an actor, the other the external means of creating a role. But in the cause of time the parts came to be separated. S fell seriously ill and while recuperating at the French Riviera decided to first finish the internal part, working in close collaboration with translator Elizabeth Reynolds Hapgood. *An actor prepares* was published first in English in 1936. The book quickly achieved acclaimed status in the theatre worlds of England and America.[54] The second part existed in draft, but its author not being yet content with it, continued working on it until his death in 1938. Then the war interrupted communication. It would take until 1950 before *Building a Character* was published, and still ten more years for publication of *Creating a Role,* which made the presentation of the System complete.

In the meantime the American theatre started its own exploration of a more naturalist direction. Following in Stanislavski's tracks, the search for truthful realism was taken up by the Group Theater, a new ensemble founded by Lee Strasberg and including dramatist Clifford Odets and director Elia Kazan.[55] After the war Kazan co-founded the Actors Studio, a place for study for advanced actors, headed by Lee Strasberg. Schooled in AAP and the practical teachings of former Stanislavski actors, Strasberg elaborated the System as he knew it. He found it useful for contemporary plays, but thought it lacked the theatrical expressiveness required for tackling classical roles.[56] To overcome this he applied himself especially to the use of 'emotional memory' (see section IIb). In his interpretation the System became the *Method*, laying primary emphasis on the psychological exercises and the elaboration of emotion. This choice to stress the inner side of the role building may have been helped by the availability of just the first 'inner'-book, and the lack of its accompanying other parts.

In any case the Method quickly proved its worth on the American stage, but it was even more succesful when applied to cinema. Mainly through the work of gifted participants of the Actor's Studio, like Marlon Brando and James Dean, method-acting became known and even acquired worldwide fame.[57] By the time the complete original Stanislavski System was presented in writing it had already been eclipsed by its own offspring, the Method, and its emphasis on the inner, psychological aspect. This has colored the reception of 'Stanislavski' ever since. The system has been considered largely through a Methodfilter, downplaying the physical aspects. (The difference in approach between System and Method is elaborated in section II).

As of today only the first of the three system handbooks has been translated in Dutch: *Lessen voor Acteurs*. It reflects the status of the first exposé. Stanislavski also wrote a book on opera, an alphabetical *Handbook for Actors*, as well as various articles, speeches and notes collected and translated in the sixties.[58] But the weight of his legacy has come to rest mainly on one book: *An Actor Prepares*.

d. Spreading the practice; influence and status.

Not surprisingly, the spread of the system is sustained not so much by 'theory', reading the book(s), as by practice. Right after the first tour MAT actors Boleslavsky and Ouspenskaya decided to stay in New York as teachers and founded their own Laboratory Theatre. Meanwhile the appeal of the new truthful style spread around Europe and the USA. Other pupils of Stanislavski made their ways into European theatres to expound the teachings of the master, each carrying their own specialized interpretation. In Holland the new style was introduced in the fifties by Pjotr Sjarov, former co-director at MAT, who revolutionized the Dutch stage with his direction of Chekhov plays. He stayed on for twenty years, monopolizing Chekhov and introducing the notion of a directors theatre.[59]

But America was the main attraction. Actor Michail Chekhov came to Hollywood in the forties to teach. After the war MAT-Studio pupil Sonia Moore set up an acting school in New York

and published a series of books on the 'real' Stanislavski, as opposed to the Method.
Director Eugene Lansky fled Russia and became teacher at the Stella Adler Conservatory of
Acting. So Method and System existed and grew next to each other, at times giving rise to
heated quarrels about the 'true path' to be taken. As of today, for some time now the popularity
of psychology and emotionality of the Method seems on the wane, leading to a re-discovering of
the original system including its physical aspects.[60]

In Holland the all-actors group of het *Werktheater* in the seventies based their improvisational,
naturalistic style partly on Stanislavski. They also introduced this style in the Dutch cinema:
actor Peter Faber, the first of the company to attract the attention of filmmakers and critics,
stated that his career had started by reading AAP and applying every lesson in practice.[61] He
was followed into film and tv by Gerard Thoolen and the rest of the company. They made
realistic, true to life filmacting the standard which it still is today.

This was not just the case in the Netherlands. In general the approach to acting as the creation of
a truthful inner life can be said to have conquered the world, especially in film. The acting in
any American films and tv-series as far as they are realist and emotional (which most of them
are) can be counted on as having a System/Method origin. Often actors are guided by their own
coach, carrying his/her own brand of Stanislavskian training. As the need grew for education in
(parts of) Stanislavskian acting, aspiring European actors traveled to New York to study with its
original teachers. Many of my acting friends and acquaintances from theatre sometime in the
eighties went to study in New York or L.A., some of them still do. Conversely coaches from the
USA were invited to Europe, Asia and Australia to teach their version of System and Method.
This was the way I became acquainted with the practice of the system, after having first read
AAP.

Let me shortly insert a personal note, on my own experience as a film and theatre director. I
encountered the system at an introductory acting course at the Theatre Academy in Amsterdam,
based purely on Stanislavski's premises as stated in AAP.[62] The specialized courses in stage-
and filmdirecting I followed in subsequent years were all Stanislavskian, whether the theme was
the use of emotional memory or the analysis of scenes in beats and actions.[63] I have used the
Stanislavski technique as director as well as some time actor, though not always, and certainly
not through to every detail - but from what experience I have with it I can say that it works, it is
reliable, and as a practical tool seems indispensable for the job.

In conclusion, one can safely say that within a hundred years of its conception the Stanislavski
approach to acting has won the day. It has become standard practice in theatre and cinema of the
western world, making up an important part of the everyday toolkit of actors and directors. In
fact it has become so much the standard that it is hard to imagine that what we consider 'good'
acting could be any different from this, and that it actually wàs, less than a hundred years ago.

e. Proviso.
Before we continue a proviso must be made:
What comes under scrutiny here is a basic, but small part of the System; the part of 'Stanislavski'
which relates to the connection of cognition (ideas, feelings) with the human body. The Stani-
slavski system comprises much more than this; it offers a complete and structured route to the
creation of a living character on stage. The concern of the System was not philosophy or
epistemology, but theatre. Still I intentionally separate part of it from its original goal, to see
what it can show about the embodiment of cognition.
This means that I am not interested here in the theatrical application of the Stanislavsky system,
nor its desirability. Let me shortly adress this issue, so we can bury it. Taken to its consequences
the System/Method tends to lead to theatre productions in a naturalistic style, 'true to life' and

somewhat introverted, with an emphasis on emotional outbursts. This can bring forth
great performances, but it certainly is not the only way in which the theatre can be of interest. As far as I am concerned there is no law as to theatrical style, and complete naturalism is not my preference. A certain and intended artificiality can produce great plays, containing more poetry and mystery than a naturalistic play, as witnessed by the work of Robert Wilson, or Orkater/de Mexicaanse Hond.[64] Then again Stanislavski should not be identified with naturalism, the persistent idea that this was his only theatrical style is a misconception. On the contrary, at the Moscow Art Theatre he was actively interested in producing 'fantastical' plays and time and again struggled with the anti-naturalistic symbolism of Maeterlinck whom he greatly admired.[65]
Personally I think that the System can be of use in theatre productions of any style, because of its great motivating powers for the actors. The inner life can be created with Stanislavskian technique regardless of the outer style. And this goes a fortiori for acting in films and tv productions. But these intra-theatrical questions will not be the issue here. What counts in a comparison with the philosophy of embodied cognition are just two facts:
That here is a theatre practice which provides empirical ways to bridge the gap between 'mind' and body - and that this practice works, the bridges actually hold, as is proven by their worldwide application and success.
In the next section we will study these bridges up close.

2/II. THE SYSTEM IN ACTION.
a. The book.
For a practical presentation of the System I will take *An Actor Prepares* as my guide, and mostly neglect the more bodily oriented handbooks. The reason for this is that what interests us here is the connection of the outer and inner, the place where body and mind of an actor meet. This area is explored explicitly only in AAP; the later books concentrate on the bodily side, taking for granted the psychical side of this psycho-physical technique.
An Actor Prepares is a step by step manual, expounding the basics of the system. It has the form of a diary written by young student Kostya who reports his experiences taking a year of acting classes with theatre director Tortsov. The discoveries come one by one, as on a voyage of disovery, and are only briefly summarized in the last chapters of the book. As a 'theory' of acting, it is strictly bottom-up, building on singular experience before coming to any generalization or abstraction. This much to the irritation of a theoretical commentator like philosopher James Edie, who much prefers works of Brecht and Sartre as theories of the theatre, in making a comparison of these three 'theorists' as to the political consequences of their position.[66] He may have a point politically, but in making it really affirms the clarity of Stanislavski's practice.
What is right is that the System takes a different perspective. Both other theories are first of all interested in a certain effect theatre should have on the audience, thus taking the perspective of the spectator. Stanislavsky speaks strictly from the point of view of the actor, his experience and his needs.[67] What the audience should think of the truthful style is hardly discussed - S wanted them to *believe* it first and foremost, so they would be taken along by the story at hand.
I will present the most important basic exercises of the System, roughly following the order of their presentation in AAP and further Method-elaborations. The information presented is culled from books[68] and supplemented in all cases by personal practical experience.

b. The exercises.
Most unschooled acting will proceed somewhat like this:
The actor reads a text expressing a certain dramatic situation, or has it described to him in some form. This is the scene to be played, say of a certain man (Hamlet, Macbeth) who sees a ghost

(his dead father, the murdered king). The amateur actor might divide this in an external
and internal part. He thinks about some externals to embody a Prince or a King - a certain
posture, maybe clothes, a prop. As regards internals, he will see it as his natural task to play the
emotion of the character in the scene. Is Hamlet amazed? play amazement; is Macbeth scared?
play fear. Just play the emotions present in the scene. And so he does.

Let us call this the ground level, the 0-level of amateur acting. According to Stanislavski it will
necessarily lead to the false, mechanical acting of 'stencils', for two reasons.

A.) It is based on generalities; 'a' prince is a general idea, and so is 'an' amazement. Such
generalities lead to general outcomes in the acting.

B.) Emotions/feelings can not be captured directly. They are in the domain of the subconscious
and should never be approached directly. S uses the image of the 'frightened emotion hiding
deep in the soul, sending out a regiment of theatrical stencils and over-anxious muscles'. (MLIA
p476) The direct, general way has to be avoided when one aims for truthfulness.

Action.

Also for S a stage role is split in an external and an internal side, representing body and mind
respectively. But his approach is essentially different. A simple example.[69]

Exercise 1: Sit on stage.

This is a general assignment if ever there was one. It just leads to unease and unnaturalness with
any actor, both internal and external.

1a. The actor is given something to do. "Look at the construction of the chair" or: "Listen for the
first churchbell to sound from outside". Now the actor has a purpose, he knows what to do on
stage. The emptiness starts to disappear. An activity is created.

The reader can check this for himself, by trying both exercises, even without any audience.

1b. Still it is quite general and (mostly) external. We can make it more specific by introducing a
circumstance. "You are applying for a job in a chair design factory, this chair is your
assignment, you have half a minute to study it". Or: "You are a politician in a confidential
meeting and suspect there is a microphone hidden in the chair". The actor will start to act right
away. And not only by moving his body, but with a certain emotion added to the motion (haste,
nervousness). The reader may again check the effect by trying.

Note that: a) the actor's task has gone from general to specific (though it can be specified much
further) and b) so far there's no direct going after emotions, just circumstances and action.

This is 'Action' in the Stanislavskian sense: movement with a purpose.[70] Lansky makes a clear
distinction between Activity (just external business) and Action, which is the personal moti-
vation behind the Activity; now both the external and the internal side are activated. Emptiness
on stage is conquered by Action. Still we must find out more about its exact workings and the
sequence of events taking place between the internal and the external.

Exercise 2:

Throw your right arm out and freeze it somewhere in the air. Look at it. Evoke an image in your
mind of what you are doing with your arm like that. Now adjust your body, so that it better
expresses what you are doing. Raise the right arm further and throw out the left. Freeze, look,
evoke an image, adjust. (M p37,38)

This is an exercise in Justification of physical motion. As the reader may want to check for
himself, as soon as the 'mind image' is found the physical adjusting comes automatically.

In AAP Stanislavski uses this exercise both to practice justification as well as to *relax* tensed
muscles on stage. Tenseness and stage fright are the natural enemies of the actor. A state of
relaxation is the required basis for all acting. When *mechanical relaxation* of tension does not
help (first contract muscles for some time, then let all force go), justification of a certain pose or

gesture will do the job. The image, evoking an objective or action, puts the body to work in a natural way. The body relaxes because it finds a purpose.(p99-104)

According to Stanislavski 'all action in the theatre must have an inner justification'.(p45) Another way to produce such a justification is the magical if.
Exercise 3: play a person in his room, threatened by a madman behind the door.
The idea here is nót to play a general idea of such fear. The idea is not to tell yourself: fear means running away from the door and scream - thus acting out a pure 'rubber stamp', or 'stencil'.
Instead ask yourself: *what if I* were in these circumstances? What if *I* were in this (my) room and a (certain) madman come rushing up the stairs? What would *I* do in these circumstances?
The reader is kindly invited to take a minute and try it.
The next step is to specify more. To create all the specific circumstances for oneself: what room is it, why are you in the room, what are you doing there? Then do the same for the other person: Who is the madman, what does he look like, why is he so mad and in what way is he related to you? etc. The actor can build himself a complete background story, captured in inner images and motivating him to act in a certain way.
The outcome of this simple exercise is an automatic reaction, a natural behavior spurred on by the imagination. The actor moves as of himself guided by the inner pictures he has just concocted in his mind. Note that the question is emphatically not: what would I feel in these circumstances? But: what would I do? Through the action the feelings will come out.

The Magical If 'arouses an inner and real activity and does this by natural means' writes Stanislavski.(p44) Referring to the philosophical opposition of body and mind that interests us, we see that the Magical If is a mind-tool, which seems to automatically get the body moving. The internal affects the external. Not by giving it a direct task, such as 'run away from the door', but in a roundabout way, through the imagination. The bodily motions that ensue are subconsciously triggered and can be quite unpredictable. Whatever emotions follow (fear, nervousness, agression) are the actor's own, but they are aroused in an indirect way. As S concludes: 'The imagination which has no substance or body, can reflexively affect our physical nature and make it act'.(p66)
We already knew that 'On stage there cannot be action which is directed immediately at the arousal of feeling for its own sake.(..) All feelings are the result of something that has gone before'.(p38) So here is the System path to feelings: The actor creates circumstances, reasons and Actions for his character in the imagination; the emotional result will produce itself.

Another way to arouse feelings is not through imagination, but through memory.
Sense memory.
Experience connected with our five senses is somehow retained and remembered. Everybody has visual and auditive memories, another well known phenomenon is the strong memory for smell. This technique uses this capacity of memory by concentrating on its sensory aspect. Stanislavsky based this part of his 'psychophysical technique' on the findings of the French psychologist Théodule Ribot, without giving any details about his work.[71] Interestingly, in what is a quest for the 'laws of psychophysical connection', it remains the only reference to a specific scientist in the whole book.(p156)
The technique must have been important within the Moscow Art Theatre, but in AAP it is not elaborated into any concrete exercises. Strasberg filled this gap in his Method practice, making (sense) memory exercises the centerpiece. Here I will largely use his elaboration.

Exercise 4:

a. Heat of the sun. (Sense of touch.)

The actor sits upright in a chair, completely relaxed, ridding the body of all muscular tension. Eyes are closed. He is asked to remember how sunlight feels on his face, on his body, through his clothes, moving slowly from one body part to the next. Where does it get hot, what parts of the face are most exposed, etc?

I refer to Appendix B for a full text example taken from Easty, which can be very well used as a guide by the reader who likes to try. As Easty notes a concentrated version of this exercise will make an actor sweat under a light bulb in a cold room.

b. Drinking coffee. (Vision, touch & taste)

Starting from the same relaxed position the actor is asked to picture a cup filled with hot coffee, and make it specific as to details. Then in steps to accomplish the physical acts of reaching out, grabbing the cup, lifting it, bringing it to the mouth, and actually taking a sip.

Pantomime is not the point here, nor a speedy performance. On the contrary, the exercise is to be performed very slowly and with constant concentration on the (remembered) sensory aspects. How does it actually feel when you touch a stone cup, where do the different fingers go, where do you feel its weight? etc. The purpose of the exercise is to gets the senses working. Such real sensory experience is what the actor should create on stage, where he is surrounded by false or non-existent furniture, missing walls, and non-existent sights.

When the actor completely believes what he is doing, the emotions will follow (such as tasting a specific taste of the coffee, reacting to burning of the lips etc).[72] Here mental concentration leads to physical reaction, which in turn can arouse the psyche.

Emotional memory. Sometimes also called: Affective memory.[73]

Exercise 5:

An emotion is sought out in a scene, say anger. The actor is asked to remember from his own experience a situation involving at least one other person, where he felt a comparable anger. (Usually one will take an extreme example and not an everyday occurrence). Sitting in a completely relaxed position, eyes closed, he is asked to picture that situation for himself. Taking this picture as basis questions are asked, prompting him to mentally specify the picture more and more: e.g. "What season is it?" "What are you wearing?" "What is the color of her hair?" Thus he turns the memory into a narrative. Most of the questions are not to be answered in speech, but internally, so the memory remains largely private. The questioning coach as well as other people present do not know the contents of the mental image evoked. Ultimately this leads to the emotion 'bursting out', when it is to be used in the scene at hand.

Appendix C gives a step by step treatment of an emotional memory exercise, as I have learned it. It can be practised alone, but this is not recommended. Usually the actor will concentrate completely on the evoked images and let the questions be asked by a coach. Note that there is never direct talk of emotion, just of circumstances and sensory appearances, plus at the end some direct questions such as: "What would you like to say?"[74]

In my experience this exercise will take somewhere between 15 and 25 minutes. Also I have never seen it fail to yield very emotional results.

Emotional memory has become the showpiece of Method acting, as well as the main reason for some actors to dislike method acting and reject it wholesale.

Practically it is used like this: when a role asks for a great emotion, say the agression of Macbeth or Hamlet's fear, the actor looks in his *own* experience for an analogous emotion. This *own emotion* he evokes through emotional memory, to use it at the appropriate moment. Clearly there are some problems applying this technique in the continuity of a stage play, which mostly

asks for a scala of different emotions in subsequent scenes. But it mostly proves useful in the rehearsal period. The technique in fact fits more adequately to the practice of filmshooting, which is in parts, with interruptions. A film actor will do his EM exercise right before he has to go in front of the camera's to shoot the scene. Emotionalized by affective memory he steps out and uses the still 'warm' emotion to combine with the scene and dialogue at hand. Being a very effective tool EM is too far-reaching to be used lightly. The ground rule of my teacher Delia Salvi was: one 'emotional memory' per role maximum!

A question that may arise concerning this exercise is whether the evoked emotion is really 'real', or distorted by memory. Here Stanislavski - who did use EM, but without centering his system on it - concedes that with time a process of change, enhancement and compression might take place, leading to a sort of 'synthesis of memory', comprising impressions of different events. But this is no worry: 'Time is a splendid filter for our remembered feelings - and a great artist'.(p163) What matters to the System is not that the memory is a literal historical truth (if such a thing exists at all), just that it is completely personal. And what matters to us in the context of this thesis is the specific connection the technique shows to exist between internal and external, between memory and the sensorimotor system.

All of the above exercises illustrate Stanislavski's motto: to reach the *superconscious* through the *conscious*'(MLIA 483). Later in AAP he speaks rather of the *subconscious*, but it's nothing more than a difference of terms; both affirm the special place of feelings, being out of reach of our consciousness. 'Like a hunter stalking game', the actor has to 'coax them out, and use lures'.(p180) Stanislavski's central effort was not only to catch these precious jewels, but catch them every time in a controllable process. This is achieved through the conscious use of circumstances and actions. Out of the execution of justified actions the emotions will follow. In short: 'Don't worry about the flower, just water the roots'.(p180)

Animals. (Method)
Exercise 6: Think of an animal, e.g. a gorilla. Start from the outward appearance. Study its movements up close and transfer them to your own body. Try to move as the animal, project the posture, stance, body, arm and head movements. Then find an inner logic for his actions. Construe an 'inner life' for the animal, meaning his basic feelings[75]

As a purely outwardly technique this is an unusual exercise within the Method, which normally starts from inner impulses. The exercise can be done for its own sake of sharpening the bodily instrument, but also in connection with a role. Then the task is to choose a specific animal you associate with the role at hand, and use its bodily specifications in the creation of the character. In the end the actor might even conform his speech to the bodily make-up of the animal.

Finally, the Method of physical actions is the version of the System that Stanislavski ended up with. At the time of writing drafts of AAP his thinking about the system was still evolving, but while writing it up in two parts he never got around to his definitive views. They were later culled from lectures and short pieces in the estate, such as the article opening Stanislavski 1952, *About the physical actions*. Here he likens the work of an actor to a trainjourney, resulting in a multitude of views and experiences, but always guided and restrained by the iron tracks underneath. In theatrical work these tracks are formed by the uninterrupted series of physical actions the actor has prepared for a role. They guide him through and 'out of the action follows naturally and in connection with the body what is accessible for the emotions'[76]

At first it is not clear from the descriptions why he would not call it a 'Method of *psycho*physical actions', because there is still mention of an *if* and of imagined circumstances - both psychical tools. The naming is somewhat confusing, suggesting that Stanislavski ended up endorsing

exactly the purely physical approach to acting he rejected from the outset. This is not the case. What is true is that after a long period of exploring the inner, psychological side, Stanislavski had concluded that it might 'lead to a forcing of emotions and to an inner hysteria' (M65). So as a matter of tactics he left out the mention of 'psycho' and then explained the wrong terminology to his pupils.[77] Moore confirms that System acting always remained psychophysical, but notes that the mental part was done mostly in preparation. On stage the physical action would trigger the rest.(M 164, 229,279)

On second glance the choice for 'Physical actions' is right, because action is to be understood in the Stanislavskian sense of being an innerly motivated activity. In his later years Stanislavski apparently relied completely on the workings of the system, once the inner work was done the motivated physical actions would guide the actor all the way through. 'To know the nature of a situation is to perform all actions of a human being in these circumstances. The found actions fixate this feeling and when you (..) go over the 'list' of these actions, a similar feeling will appear'.[78] Also in these words one can hear an active interest in the physical side of theatre. As when Sonia Moore tells her students that 'Physical actions might express your feelings and even make you feel'.(M146)

Two things are noteworthy: here for the first time appears a scheme of the actor's body influencing his mind, and even mastering it.[79]

Secondly, the naming issue once more sheds light on the dividing line between System and Method. The former ultimately emphasizes bodily aspects, the latter is built on psychological exercises. A telling detail is that one exercise was dropped quickly in Method practice, namely the justifying of physical poses (exercise 2). It remained the very first exercise in mrs. Moore's teaching of the System as a method of physical action.

<div align="center">***</div>

The above is not an exhaustive exposé of the System. AAP goes on to dicuss other elements as *concentration*, *attention* etc, and there are two more handbooks covering other aspects. The system provides the tools for the creation of the complete inner life of a role, as well as of the external side. Ultimately the stage is reached where 'acting is living thruthfully under imaginary circumstances.'[80] Picture an actor acting under this system as having an ongoing line of images in his head all the time while acting, providing him with circumstances and actions, motivating him to act in a certain fashion. He then has 'something like a moving picture in the head' (p60) and that is what he concentrates on. Clearly this requires an enormous amount of inner concentration and exercise. Only when practised on a daily basis can such a system be internalized and become automatic, so the actor can really use it as a tool, as if he were driving a car. This in turn is an absolute necessity, because the actor on stage should actually see his co-actors and react to them - and not just to his inner images.[81] The MAT apparently did attain this automatic level, but in our modern theatre life such a sustained group effort has become rare. It is another reason why the practice of the System has shifted from the theatre to the cinema, moving from a collective effort to a more individual tool.

But here the theatrical considerations really have to end. For a comparison with philosophical theories of cognition and embodiment it suffices to concentrate on the connections between the internal and the external as found in the Stanislavski exercises. If it is true, as AAP explicitly claims, that the system rests *on organic bases of the laws of nature* (p16, 295), the system exercises can be seen as examples of natural causal connections between mind and body. To bring these connections to the fore we have to schematize our results.

2/III. STANISLAVSKI SCHEMATIZED.

a. By himself.

Only at the end of AAP does Stanislavski reveal his pedagogical method: 'first make you feel what you are learning by vivid practical example and later come to theories'.(p227) He never wanted to appear a theorist, knowing first hand the abhorrence many actors feel for high abstractions. Still his effort is clearly to arrive at the formulation of laws, at some kind of theory. His wish to base the laws of acting on laws of organic nature is again expressed in the very last paragraph. Calling this a 'loose 'system' of fluid, frequently undefinable terms', as Edie does[82], seems a crude misrepresentation. And when Edie speaks of his 'idiosyncratic, highly spiritualistic Russian vocabulary' one wonders whether he has in fact read AAP at all. In the later book there is no more mention of 'spiritual juices' or 'unseen energy', but even in MLIA these are mentioned only once.[83]

In fact the categories and concepts of AAP form a clear list, following the main distinction of inner and outer: *externals* vs. *inner aspects*, *body*, *movement*, *physical/psychical*, *emotions/feelings* (used interchangeably, lacking an explicitly formulated difference), *imagination*, *images*, *(screen of) inner vision*. The terminology is in fact modern, which explains the ongoing popularity of the book. Only the totality of the inner life, the *psyche*, is sometimes also called *Soul*, which may be the only traditional name. 'Mind' is here reserved for the intellect.

There is no comprehensive scheme. Stanislavski at times in class presented the entire System comprised in a sketch of a house with many rooms, but this is not in his book. The discussion of the *Inner motive forces*, at the end of AAP, is the closest we get to such an overall scheme - alas it is not completely clear. Within the psyche (or soul) three 'masters' are distinguished: *feelings*, *mind*, and *will*. They form a triumvirate which can induce a creative mood, move the body and make it expressive. But the first category, feelings, is not 'willing to take orders', so it can not be used as a conscious starting point. About the will, equated with *desires,* he notes that it can not be stimulated directly, but lets itself be led in close co-operation with feelings. 'First you are carried away by feelings, desires are subsequent'. So, except when the feelings react spontaneously, it is mostly to the mind, the intellect, that we turn for starting up the process.

First the mind takes in what is expressed in the text or assignment for a scene, and arrives at a conception of their meaning. Then the mind enters the procedure of the System, creating circumstances (C) and a personalized image (I), formulating actions (A) and an Objective (O). This is the machinery which in turn gets emotions and will going, as well as the body. But S is quick to deny any straightforward sequence of causality, claiming the three masters will always somehow work together and are inseparable.[84] The gist of this chapter could be forced in a scheme, like this:

(S) Txt $\rightarrow$ Mind $\rightarrow$ C/I/A/O $\rightarrow$ Will/Feelings + Body.

Note that Stanislavski did not make schemes like this, nor have I seen them made by any acting teacher I know of. They are my invention for the purpose of this thesis.

Also note that scheme S shows unclarity especially in the last stage. The introduction of the Will, coupled to Feelings, is in fact too general and obscures some of the workings of specific exercises. This scheme is only a stepping stone for the more specified schemes that will follow.

Lastly note that the arrows used here represent a temporal and causal connection, without as yet claiming anything about necessary and/or sufficient causes. They are not similar to the arrow of logical implication. The issue of causality will be looked at in detail in the next section.

Probably we have reached the point where Stanislavski himself would take his leave, saying 'I am afraid of falling into philosophy and of straying from the path of practical demonstration' (p228).

b. By me.

My aim is to formulate how the Stanislavski bridges are structured. To do this I will reduce the exercises to schemes expressed in a few basic categories distinguishing phenomena according to their physical and mental properties. In Chapter 3, they will be reduced even more, to be comparable to categories of embodied cognition. We proceed in sequence of the discussion in section IIb, starting with basic amateur acting. This can be schematized:

(0) Txt^{85} → Mind → 'Feelings' + 'Body' (stencils).

The result as we have seen is an activating of feelings and body apparatus. But it is an activation in general, which does not produce the desired result of true feelings, but produces stencils. I will use quotation marks to indicate that. What the Mind exactly does in exercise 0 will become clearer in the course of this section.

Exercise 1 is about Action. The creation of purposeful movement. Literally it goes:
"Sit on stage" → no Feelings + no Body (= purposeless).
We can call this Txt0, making this our Zero level of acting:

(1) Txt0 → no Feelings + no Body

'No' should be read as 'without purpose'. Both internally and externally there is just unease.
We added a (mostly) physical activity:

(1a) "Sit on stage" + "Look at construction of chair" → Body
This can be rewritten as:
(1a) Txt0 + Physical activity → Body.

In other words the exercise now has a clear external effect, and the motion has some purpose.
To this we added circumstances and a personal motivation:

(1b) Txt0 + Physical activity + Circumstances → Body + Feelings.
The activity of 1a gets specific and personalized, and now is called Action. Not only is the body moving with purpose, but it is also accompanied by an internal effect: feelings ensue.
Generalized we come to this scheme:

(1c) Txt0 + Action → Body + Feelings.

Note that 'Action' is taken not in the usual meaning of a bodily action; it is the activity plus an intention to do it for a certain reason, which is a mental phenomenon. In the following schematizations Action will stand for the inner process. (It could also be called Specified Intention, but I will stick to the shorter Stanislavskian terminology. See also note 70) What exactly happens at this stage in the Mind will be clarified shortly.

Exercise 2 is the justification of physical poses. No text, but a bodily movement starts the process.

(2) Pose → Mental image → Justification → Body adjustments.

'Justification' is in fact a name comprising the psychic process of finding oneself a motivated

action, like in 1a. "Oh, I see, apparently I am picking grapes" the actor thinks after making himself a mental image. The image provides him with a movement with a purpose. We come to this restatement:

(2a) Body → Mental image → Action → Body.
Note that both 2nd and 3d stage are psychic phenomena, they happen in the Mind.

The function of the second step, the mental image, may be clarified by Exercise 3: the Magic If. 'If gives the push to the dormant imagination', wrote Stanislavski(p48). Together with circumstances this creates an inner stimulus. Action ensues. So we have this sequence:

(3) Txt: IF → imagination → mental image/inner activity → motivated action → outer activity → accompanying feelings.
  Or compressed:
(3a) Txt3 → Mental Image (or: 'I') → Action → Body + Feelings.

Let us stop for a moment and go back to the still roughly formulated (0):
(0) Txt → Mind → 'Feelings' + 'Body' (stencils).
The difference with (3a) seems to lie in the absence of mental image, but that is not right. Also in amateur acting the text will lead to the creation of a mental image. So we have to reformulate 0, specifying 'Mind':
(0a) Txt → Mental Image → 'Feelings' + 'Body' (stencils).
Only the image created here is a general one (a prince, a fear).[86]
The difference with (3a) lies in the personalization brought about by 'IF'. But in fact the formulation goes: if _you_... It is the 'you' which truely makes it magical. The result is a personal mental image, as opposed to a general one.
Once more we adjust our formulas: (now using IFY in the sense of "If you").

(0b) Txt → general Mental Image (Ig) → general Action → 'Feelings' + 'Body' (stencils).
(3b) IFY → personal Mental Image (Ip) → personal Action → Body + Feelings.

One might say a general image is the same thing as an 'Idea'. Schematized:

(0c) Txt → Idea (Ig) → general Action → 'Feelings' + 'Body' (stencils).

Stanislavski thought the general approach had a deadly effect on acting and wanted to avoid it at all cost. We can now see that the stencils he noticed as end products of this approach are in fact already present in the mind, in the form of ideas. In this formula we find another characterization of the French representationalist acting style: it is based on ideas.

4 is Sense memory, the basic exercise of the Method. Working from a short instruction a whole chain of events follows, roughly formulated thus:

(4) Txt ('sunshine') → Memory/Imagination → Sensory Image → Sensory Concentration →
    Bodily Experience → Feelings.

Clearly sunshine has to be created from memory, but as the exercise with the coffeecup shows there is space for the imagination as well. The cup does not have to be a familiar one for the actor to be able to sense its different qualities.

Now let us try to reduce this formula somewhat.

(4a) Txt → Mental Image + Concentration → Body → Feelings
Feelings will ensue in the end, though they are not the aim of sense memory. They are of the next exercise, Emotional Memory, where the instruction is to recapture from memory a personal emotion, expressed in an image. The sequence can be described as follows:

(5) Txt: Emotion → Memory → personal Mental image → Concentration, specification → Body reacts + Feelings come out.

The term 'concentration' comprises a time consuming psychical process of closing in on the mental picture and making it come alive, all done in the mind. 'Attention' and 'specification' may be other names to describe this, but in fact these names would all describe the very same practice. Compressed the scheme goes:
(5a) Txt → personal Mental image (Ip) → Concentration → Body + Feelings.

The Animal exercise seems to be a very different technique.

(6) Body animal → Imitation + Concentration → Body actor → Feelings.

But on second glance the difference is not that great, since the process of imitation entails observation as well as working from memory and so again some form of mental image.
(6a) Body A → Image & Mental Image + Concentration → Body → Feelings.

The 'Method of physical actions' does not provide a specific exercise, or it must be nr. 2 as used by Sonia Moore. But when we regard it as 'psychophysical action' in two parts, this leads to a schematization separating preparation and performance:

(7) Txt → (preparation) Mind → Images+ Circumstances + Personalization → Actions → list of Body movements // (performance) list of Body movements → Body + Feelings.

After reduction we get:
(7a) Txt → pers Mental Images (Ip) → Actions → LBody → Body + Feelings.

c. Conclusions and questions.
Once more, let us take the above schemes in their last versions and put them together for comparison. 0 is the ground level, the non-system, amateur version of acting. All the others are Stanislavskian additions.

(0b) Txt → gen Mental Image (Ig) → gen Action → 'Feelings' + 'Body' (stencils).

(1c) Txt0 + Action → Body + Feelings.
(3b) IFY → personal Mental Image (Ip) → Action → Body + Feelings.
(4a) Txt → Mental Image + Concentration → Body → Feelings
(5a) Txt → personal Mental Image (Ip) + Concentration → Body + Feelings.
(7a) Txt → pers Mental Images (Ip) → Actions → LBody → Body + Feelings.

(2a) Body → Mental image → Action → Body.
(6a) Body A → Image & Mental Image + Concentration → Body → Feelings.

What follows from these highly abstracted lists will not be immediately apparent, although a pattern is transpiring. I will take note of the most important outcomes, arranged according to theme. This in turn will bring along a number of further questions, making up a 'to do-list' of separate, yet closely related topics to be treated in the next chapters.

1). Feelings.
There is an apparent similarity in the schemes 1-7. In general Feelings (considered as a conscious phenomenon, therefore Mind) follow Body. Body in turn follows Mind, but apparently another part, not the feeling one.
As far as embodiment is concerned this would mean that the part of cognition called 'feelings' certainly could be called embodied. The suggestion is that feelings are the most bodily part of cognition. More about feelings and the position they occupy in our psychophysical make-up as well as in the totality of cognition will be said in the next chapter.
1a). In most of these schemes mind is influencing body. Two schemes are set apart, nrs. 2 and 6. They suggest a more radical chain of events, where the body is start and finish of the process. Here bodily motion influences the mind and then again body. But note that this is not a causal chain in the sense of necessary <u>and</u> sufficient cause. We can throw up an arm and remain frozen, without anything mental happening whatsoever. We can choose to imitate or not to.

2). General - personal.
There is a clear split between scheme 0 and the rest. The non-system process yields a general result, whereas schemes 1-7 yield personal results. The distinction general-personal is for now reduced to two different kind of mental images, but has not as yet been explored satisfacorily: is it equal or somehow related to known philosophical oppositions like general vs. singular, or objective vs. subjective? When in fact do we start to call an image 'personal'? Lastly there may be a relation with the opposition of 1st and 3d person descriptions, which came up in chapter 2. These questions will be taken up in chapter 3.
Further it is clear that the general result is much easier attained, whereas for the personal result it takes the effort of a system exercise. On the other hand, in the personal results a different kind of causality seems to be at work.

3). Causality.
When we study the causal arrows more closely we find that most are connections of necessary, but non-sufficient causality. Especially the arrows pointing towards and away from the Mental Image need further study. The former is a non-sufficient cause. For instance, as noted, in:

(2a) Body → Mental image → Action → Body.
The first causal connection still requires an additional act of the will, a choice, or nothing will happen. The same goes for the first arrow in:

(3b) IFY → pers Mental Image (Ip) → Action → Body + Feelings.
When the actor does not want to cooperate, nothing much will happen.
But the *second* arrow and the *third* offer a different aspect. Once the 'Mental Image' is created as well as the idea of Action (movement with purpose), the Bodily action itself seems to follow necessarily. This would make these connections not only necessary but also sufficient causes. I will mark them by a double arrow (which is the equivalent of the arrow of logical implication: 'if...then')

(3c) IFY $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings.

Note that the second connection here is causlly sufficient due to the formulation of the exercise. In fact the Ip and Action in this case form one, intrinsically connected complex. For reasons of brevity I will regard them as such without further investigation.[87]

This formula (3c) points out a law, the organic law Stanislavski was looking for. It certainly points at an essential embodiment, mind and body being causally connected. It may also necessitate us to review the concept of what a 'mental image' really is.

4). General - personal revisited.

If such a causality works on the personal level we have to go back and see whether it is the same on the general level. Comparing:

(3c) IFY $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings.
(0b) Txt $\rightarrow$ gen Mental Image (Ig) $\rightarrow$ gen Action $\rightarrow$ 'Feelings' + 'Body' (stencils).

Should the second and third arrows of (0b) also be double arrows? When the assignment goes: "play an amazed Hamlet" is there a necessary ànd sufficient causality working? If not, the next question is what this would mean for the embodiment of general cognition as opposed to personal cognition.

5). Mental Imagery.

In almost all these schemes a central and essential role is played by 'mental image'. This is of course just the name to describe 'some phenomenon' going on in our brain, but can it be pinned down more? What exactly does it mean that such an inner 'image' is causally connected to body movement? Suspicion arises that our categories may be too wide and plumply formulated to describe accurately what happens in the brain in case of a 'mental image'. In recent years neurobiology has done an enormous amount of research in exactly this direction. Some of it will be discussed in the next chapter, to elucidate the concept.

6). Obstructed Embodiment.

So far the System shows that a part of cognition can be traced back to body. But clearly this is far from automatic, or we would not have needed Stanislavski's search in the first place. What the system and the acting practices show first of all is that the natural connections between this part of cognition and body are usually broken or at least seriously obstructed. A philosophy of embodiment that claims (all of) cognition to be essentially embodied surely will have to account for this obstruction.

7). Other cognition.

Cognition present in a text, modified by personalization and Action, finds a bodily expression. The system has also shown feelings to be embodied. But does this hold for all cognition? So far we have just dealt with conrete, active assignments. Nothing has yet been said about thoughts and abstractions. Can they be embodied just as well, or not at all? And can system exercises be of assistance in an empirical testing of these questions? This will be the subject of Chapter 4.

Chapter 3.
COMPARING THEORY AND PRACTICE.

This chapter concerns itself with the epistemological consequences of the System practice. This is done first of all by comparing its practical findings with the theories of embodiment from chapter 1. But as is clear from the to do-list of section 2/IIIc, we have a multitude of thematic strands on our hands waiting to be accounted for. The list points out six main themes. In this chapter I will try to do justice to this multitude, allowing for short excursions into different sideroads, without losing sight of the main thread: the comparison of embodiment theory to System practice.

First the results from theory and practice are joined in a detailed comparison, laying expectations from chapter 1 and results of chapter 2 alongside each other. This leads to an ascertained agreement between theory and practice, as well as a limitation found. Where a general agreement was expected, it is the limitation that has to be accounted for.

This discussion is done in the next sections. First we take a closer look at the two variants of embodiment theory under scrutiny - Varela/Wilson and Schatzki/Wittgenstein - to see if and how they can answer for the results of the comparison.

Then we turn to science in an effort to find theoretical explanations for different issues related to both agreement and limitation. First to psychological research clarifying the different forms of mental imagery. Then to neuroscience for a close and up to date investigation of both Feelings and Mental Imagery. A recurring theme throughout is the distinction between 'general' and 'personal' levels of cognition. (All in all five issues of the to do list will be treated of in this chapter, leaving the remaining one for chapter 4.)

Out of this thematic plurality a synthetic picture emerges of the nature and the limitation of embodied cognition. I venture to give my own answer to the question which part of cognition is found to be in agreement with theory. Consequences for Mind will be elaborated and sketched in a provisional model, shedding new light on the general set-up of the mind-body relation.

a. An agreement and a limitation.
To make a comparison of theory and practice we have to sum up the results of chapter 2, formulated in terms of our main categories. But first I will repeat the claims and expectations from theory as found in Chapter 1.

The philosophy of embodied cognition maintains what its name says: our cognition is 'embodied', it has a bodily origin as opposed to a purely mental one. If this is true one would expect a clear path leading back from examples of cognition to the body it stems from.

The different versions of embodiment theory studied in Chapter 2 lead to the following expectations about the relation between cognition and embodiment:[88]
1) Embodied Cognition-Varela: A clear connection exists between everyday Cognition and the Body.
2) Embodied Cognition-Wilson: This clear connection also exists between off-line Cognition and the Body, but possibly not in all cases.
3) Social embodiment-Schatzki/Wittgenstein: Cognition is embodied as well as profoundly social. The cognitive/intellectual conditions may differ in degree of embodiment from other life conditions, such as emotions.

Now, after theory, what does practice say? In the last chapter we ended up with a list of schematized results:

(0b) Txt → gen Mental Image (Ig) → gen Action → 'Feelings' + 'Body' (stencils).

(1c) Txt0 + Action → Body + Feelings.
(3b) IFY → pers Mental Image (Ip) → Action → Body + Feelings.
(4a) Txt → Mental Image + Concentration → Body → Feelings
(5a) Txt → pers Mental Image (Ip) + Concentration → Body + Feelings.
(7a) Txt → pers Mental Images (Ip) → Actions → LBody → Body + Feelings.

(2a) Body → Mental image → Action → Body.
(6a) Body A → Image & Mental Image + Concentration → Body → Feelings.

To be suited for comparison with theory this has te be re-formulated in a common vocabulary.
In schemes 0-7a *Txt* represents the original Cognition. The written text or oral assignment functions as input. For instance: "Hamlet, speaking angrily, says: (etc)". But also: "Concentrate on the sense memory of drinking a cup of coffee". When this is read or heard by the actor it functions as cognitive input, it forms as it were a 'piece of cognition`, which he now has to work with. Moreover, it is offline in nature. If an actor is asked to play the anger of a prince, we are clearly dealing with offline cognition. But in general one can say that in any of these acting exercises the point is precisely to go from offline to online cognition, from a text to a form of activity.[89]
Re-writing schemes 0-7b with parameters limited to basic terms like Cognition, Mind and Body, we would get one generalized model comprising all System findings:

(8) OFCognition → Mind → Body → Feelings.

But this model is too general to indicate how it actually works. Also it does not present us with information as to necessary and sufficient causality. As we saw in Chapter2/IIIc sufficient causality appears in a more detailed version of the same formula, when we rewrite the scheme (3c) of the 'magic If' for Cognition:

(3d) OFCognition → pers Mental Image (Ip) ⇒ Action ⇒ Body + Feelings.

The inquiry as to causality is not complete without taking the special position of feelings into consideration. Remember that one of the main motives for Stanislavski to construct his system was to find 'a roundabout way' to the ephemeral phenomena of emotions. Can we generalize the last double arrow of (3d) to all the other schemes; or in other words is Body always accompanied by Feelings?
Let us check the schemes. Feelings/emotions[90] appear everytime at the end of the trajectories.

(1c) → Body + Feelings.   (general exercise)
(3b) → Body + Feelings.   (magical If)
(4a) → Body → Feelings.   (sense memory)
(5a) → Body + Feelings.   (emotional memory)
(7a) → Body + Feelings   (physical actions)

The difference between the occurrence of '+' and '→' is prompted by a slightly *felt* difference in the immediacy of the feelings appearing in a sense memory exercise: they follow somewhat later in time, compared to those in an exercise of emotional memory. One might squabble over the exact difference but I will disregard this as a discussion of details. I will from now on use the

'+' sign across the board, to illustrate that in these exercises Feelings are caused by, and directly accompany the occurrence of Body.

Note that the feelings mentioned here are all of the personal, 'lived' kind. They are to be distinguished from a more general kind of feelings appearing in exercise 0, which might better be termed: ideas of a feeling. Clearly the personal feelings are embodied, they follow body. Once more rewriting our scheme we arrive at this general formula:

(8a) OFCognition $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings.

This pesents the organic law Stanislavski was looking for, involving a necessary and sufficient causality. For reasons of brevity the third stage, of Action, is generalized over different exercises which may involve different itineraries, i.e. concentration, and the second arrow is hence generalized as being a double one (see remark 3 of the to-do list, as well as section c/v).
But before we can pit this formula against theory we have to check it against the remaining schemes.

*

We have to consider two other outcomes, representing the justification and the Animal exercise respectively. Both do not start from text but from bodily movement.

(2a) Body $\rightarrow$ Mental image $\rightarrow$ Action $\rightarrow$ Body.
(6a) Body A $\rightarrow$ Image & Mental Image + Concentration $\rightarrow$ Body $\rightarrow$ Feelings.

Interestingly these examples seem halfway on the path to *online* cognition. The justification exercise consists of imagining an actual situation, the inner question being: what am I doing at this moment? The animal exercise can consist of direct observation of an animal which would be online, as well as of remembering such observation, which is off-line.
Expressing them in our main terms we get:

(2b) Body $\rightarrow$ Cognition/persMental image $\rightarrow$ Action $\rightarrow$ Body $\rightarrow$ Feelings.
(6b) Body A $\rightarrow$ ON&OFCognition/Mental Image + Concentration $\rightarrow$ Body $\rightarrow$ Feelings.

Generalizing, and disregarding small differences, this would lead to:

(9) Body $\rightarrow$ Cognition/Mental image $\rightarrow$ (Action) $\rightarrow$ Body $\rightarrow$ Feelings.
and expressing causality:
(9a) Body $\rightarrow$ Cognition: Ip $\Rightarrow$ (Action $\Rightarrow$) Body + Feelings.

Note that the first connection, between Body and Cognition, can in itself not be considered causally sufficient. It still requires an act of the will to actually do both exercises, justifying a pose or imitating an animal. Still through constant exercise the process of (2), inner justification, could become easy and almost automatic - like driving a car. This was exactly the intention of the intense practice at the MAT and apparently they came a long way in achieving the level of unconscious application. In that situation one can argue that also the first connection is causally sufficient. This was of course the whole point of the 'method of physical actions', to make the process almost automatic.[91]
For our purposes it suffices that (9a) shows the same causal pattern as scheme (8a).

**

As is noted in the to do list (Ch2/IIIc nr.4) we also want to compare System outcomes with the basic amateur level as regards causality. The latter version, as we saw, involves generalities, or Ideas, rather than specified personal experiences. Schematically:

(0c) Txt $\rightarrow$ Idea $\rightarrow$ general Action $\rightarrow$ 'Feelings' + 'Body' (stencils).

'The fear of the prince of Denmark' is such a general idea. It certainly has bodily associations, both 'fear' and 'prince' can evoke lively images in the actor's mind to proceed on. The idea is a necessary cause for these bodily expressions to appear, the generalized movements and stances Stanislavski called 'stencils'. But we can see that there is no sufficient causality operative here. The actor pondering 'the fear of the Danish prince' must certainly add his will to the acting process, before anything bodily happens. He is not forced to act by the idea alone - as is witnessed by the fact that we can read the play sitting in a chair, and remaining unmoved. (In chapter 4 we will tackle the question whether *any* idea can thus be embodied.)

This is exactly where the System makes a difference, concentrating on creating a 'personal' mental image. When that is attained the actor is as it were forced to express himself bodily, driven by a sufficient causal connection. What happens then is the unfolding of an automatic chain of events that can only be stopped by an immense act of the will or intervening outside influences.

Expressed in our vocabulary the difference in causality due to different mental images can be shown by reformulating once more for the amateur level:

(0d) OFCognition $\rightarrow$ Mind: Idea (Ig) $\rightarrow$ generalized Body.
While the System outcome then reduces to:
(10) OFCognition $\rightarrow$ Mind: Personal Image (Ip) $\Rightarrow$ personal Body.

<p align="center">***</p>

Following on these schematizations we can now draw conclusions from our excursion into the minds of stage actors, amateur and schooled. Consider our final outcome:

(8a) OFCognition $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings.

1) A clear connection is found between cognition and body. Offline cognition can be led back to bodily action in a few steps, via a causally sufficient connection, *provided there is a personal mental image (Ip) in between.*

So we find part of offline cognition to be causally connected to the body. This concurs with the expectations of all three embodiment theories as described above, without so far favoring one much above the rest.

With regard to the question whether the Stanislavski system can be seen as an illustration of the theory of Embodied Cognition the answer is: 'yes, but'. There is an agreement, as well as a limitation. The direct link of (offline) cognition with body is conditional, depending on the possibility of an Ip. In fact the 'Ip' seems somehow to form, to *be*, the causal interface between mind/cognition and body. If we call the Ip an 'embodied mental image' (viz. in connection with the required action), this implies that the general form, Ig, is not embodied in the same way; because it does not bring along the same kind of causality, nor the automatic chain of events.

2) Embodiment is not direct in case of a general mental image. We saw the occurrence of this general image is the ususal situation, the rule in unschooled acting practice. That makes direct

embodiment not the rule, but the exception. It remains to be seen whether embodiment theories will be happy with this result, and even if it is compatible with their general perspective.

This issue hinges on the difference between two forms of mental images, viz. general and personal. This theme has to be elaborated. Why is the general image, or idea, not directly embodied? What exactly is meant by the label 'personal?

3) The other interesting result concerns the special position of feelings within 'cognition'. We found that the personal feelings are embodied, following Body. That is at the result end of the process. We can also look at feelings on the input side: since we can trust any description of a feeling to be able to produce a personal mental image[92], we can safely say that feelings are embodied. When we accept by definition that they are (mostly) conscious and therefore belong to cognition and thus to Mind (see chapter 1p5 and footnote 7 for these definitions), we get a scheme like this representing the embodiment of feelings:

(8b) OFCognition of Feeling $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings.

But there must be quite a distance separating the first and the last stage of this path. We have seen how Stanislavski described the feelings as the hidden pearls that stage actors dived for, but mostly failed to bring to the surface. Now if the feelings at start and end are both part of the mind, why would they be so 'hard to get' in the first place? In fact the formula suggests that the offline and online occurrence of 'feelings' are completely different phenomena. If we link them to Mind we will have to acknowledge that the 'CognitionMind' which starts the process is something quite different from the 'Mind' that includes the bodily feelings at the end. Thus:

(8c) Mind1 $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings (Mind2).

Could there indeed two different 'minds' operative? Or does what is suggested here really amount to a redefining of the general term Mind?

****

Resuming once more: We have found an agreement and a limitation. If we had just found the former this thesis would come to an end here. The limitation is our new problem.

As a result questions have come up for further investigation, centering on 3 underlying themes: the general-personal opposition, the nature of the mental image and the position of feelings.

They will be tackled in the next sections. But we have to do clear bookkeeping, lest we lose our way. (Should the reader think that I am just piling up new homework while the old is not yet finished, let me point out that these are also themes from the to-do list. All except the last one will be treated in this chapter.)

First, completing our comparison, philosophy of embodiment is questioned as to the consequences of the limitation found. Then I will turn to related sciences, for more detailed investigations. All are driven by the common goal to gain more insight in the limitation found. The hurried reader may want to skip one or more of these and jump to section d., where the different threads are gathered together and the main line of this investigation is continued.

b. Exploring the limitation: embodiment philosophy revisited.

First we will look to the philosophies we started out with: Embodied Cogniton and Socialized Embodiment. The two main variants of Embodiment Theory do explain the fact that a basic embodiment of cognition exists, as we saw in Chapter 1. What can they tell us about the

conditionality the system has pointed out? Can Varela/Wilson[93] or Schatzki/Wittgenstein give an account for the fact that direct embodiment in everyday life is not the rule but the exception?

To answer this directly is difficult, because the authors in question simply did not know the Stanislavski practice, nor its outcome. But we can try a roundabout way, dividing the problem in sub-questions centered around the three themes mentioned above, and see if these can be answered.

1. According to the System the crucial element in Embodiment is the Mental Image (Ip). Why would this be so?

- *Varela*: is silent on the issue of images, mental or otherwise.
- *Wilson*: In the treatment of offline cognition Mental imagery is presented as the first of some 'well established and non-controversial examples of off-line embodiment'.(p633a). No mention is made of a subdivision or a taxonomy within the realm of Mental Imagery.
- *Schatzki*: Mental images are not treated explicitly.

2. Is a distinction between 'general' and 'personal' levels, (as shown in amateur and System acting respectively), treated of in the theory?

- *Varela/Wilson:* No.
- *Schatzk/Wittgenstein*: Not directly. The working of the System can not be explained as the simple re-connecting a person with his own innermost, 'personal' episodes, shaking off socialization and bypassing the public realm. Still that is what the System exercises seem to accomplish, as suggested by the opposition of general vs. personal mental image.

Bearing in mind that the System's working unit is the individual human being, we can ask the related question whether this is also the case in the variants of embodiment theory.

- V/W: Yes. In fact the working unit is an individual interacting with the environment through structural coupling. There is no special opposition of social vs. individual noted.[94]
- S/W: Yes. All social practices (like stage acting, or performing System exercises) do exist in individual action. The conditions of life are socially constituted, but they find their expression in the doings and sayings of bodies, thus of individuals. But since they are socially constituted the space for individuality is limited: it is the social practices that constitutes individuals and the 'expressive body' is a social product.[95] Schatzki's view on this issue is explicitly influenced by the Heidegger of *Sein und Zeit:* in that view 'Dasein' is largely formed and occupied by *das Man*, leaving little space for an autonomous existence in the sense of something outside the influence of socialization.[96] Still the theory of 'socialized embodiment' acknowledges the existence and activity of individuals and also allows for 'novelty', which occurs when individuals 'extend the bounds of the intelligible'. (p68-69)

What follows is that both theories, confronted with the system result, would probably say that the noted opposition of general vs. personal is not to be equated with social vs. individual. More precisely: that 'personal' as used here is not the same as 'individual', but that general-personal is a distinction made *within* the realm of the individual.

3). What can the theories say about the special position of feelings: Why would it be hard for an adult individual to reach emotions and express them truthfully? And why does the System need to take a roundabout way: via cognition, mental image and sensory, bodily activity?

- *Varela* 1991 is not explicit on the issue of human emotions. They are considered a result of structural coupling, like the rest of human cognition, and basically embodied. Why some part of them would be hard to reach, or even buried, is unclear. Wilson does not speak about the

emotional part of cognition. No clear answer is suggested as to why this part of cognition might be 'hard to get'.

But in one of Varela's last articles, written with Evan Thompson, a more concrete view appears[97]. Three dimensions of embodiment are distinguished in higher primates, named *organismic regulation*, *sensorimotor coupling* and *intersubjective interaction/social cognition* respectively. Emotional states are presented as part of the first category; they are tied to the experiential dimension called *sentience* and 'organized on processes constituting the organism's *feeling of self*' (p13).

The special place of personal emotions could follow from this tripartite division. Why the direct way to level 1 should be closed is not explained. But if it is, the System appears as a road leading back from the dimension of social cognition (this would be the 'Mind1' of section a), via sensorimotor coupling (body), to the most basic one of organismic regulation (Mind2). In fact this might be pictured as a descent into the 'bodily self', associated with sentience and *experience*. This picture will be confirmed in the section on Damasio, whose research is in fact referred to in the article by Varela and Thompson.

- *Schatzki/Wittgenstein* distinguishes emotions from other categories of life conditions, such as consciousness and cognitive conditions. But all life conditions are expressed by inner and outer phenomena, which all have a bodily and therefore social expression. So why emotions would be harder to express than thoughts is not immediately clear, in fact the former category possesses characteristic expression that the latter lacks.

The problem must be a different one, of the sort of emotions. According to S/W, whenever it is hard to reach feelings, this is a socially constituted phenomenon; and the feelings reached will be socially constituted as well. In this socialized conception of human life it is clear that a direct way to any emotion or feeling would lead directly to a 'socialized feeling'. The direct way to the private will lead to a 'socialized private'. Just like we saw in the (0) exercises of amateur acting, using quick ideas of feelings and not going through the experience itself.

So far we have some hints as well as some non-answers. But we can also ask the question more directly, though this is of course speculative:

4. How do these theories account for what the System does? What does the System show about the connections of body and cognition? That is, what would the theorists say if they had taken the System into consideration?

Varela/Wilson, Embodied Cognition: What the System points out is first of all the existence of embodiment. This embodiment is biological and across the board. That it is less direct at the amateur acting level must be caused by other impending influences, probably social and cultural. A good candidate for such an influence in acting may be the feeling that one is watched. The actor as it were feels the whole social/cultural complex focused on himself and thereby attracts its obstructing influence. What the System basically shows is a way to attain the level of direct personal *experience,* closely connected to body and feeling of self.[98]

- *Schatzki/Wittgenstein, Socialized Embodiment*: What the System points out is first of all the existence of embodiment. This embodiment is social and across the board. What the System shows is a way to connect the expressive body directly to the level of 'spontaneous behavior'. which is defined as doing 'without the intervention of conscious thought'.[99] This would explain the fact that the outcome of System exercises is still intersubjectively comprehensible. Wittgenstein's own terms for such behavior are *nächstliegend* and *selbstverständlich,* 'as a matter of course'.[100] A certain level of such spontaneous behavior is always present in daily life, but in the business of stage acting apparently a conscious thought intervenes: the consciousness of being watched. The System can overcome this.

c. EXCURSIONS.
i. Into psychology.
Interesting research using traditional psychological methods confirms the distinction between general and personal mental images. It is not a fiction from the theatre, nor a theoretical trick on my part to get my results straight. An Italian group of psychologists from the University of Padova, [101] repeatedly researched the existence and characteristics of *different kinds of mental images*, quantifying over categories. Their taxonomy distinguishes *general*, *specific* and *episodic-autobiographic* mental images.[102] In their experiments subjects, confronted with certain nouns, are asked to make up a mental image and the result is investigated as to its properties. The interesting result is that subjects do indeed generate different mental images: Highest score is for the general or *contextual/impersonal* image (a dog), followed by specific (the image of a single well-defined example, my dog), and lastly autobiographi*c* (an image involving the person him/herself).[103] Glossing over details such as the later addition of con-textuality as a distinctive property (an object is seen in a surrounding, rather than on its own)[104], results of this research are constant: The category of general image comes first in generation, it is evoked fastest and reactivated fastest. It may subsequently be turned into a specific image. This would support the hypothesis 'that any image generation process starts with the formation of a general image', (called 'skeleton image' by Kosslyn, 'visual schema' by Cornoldi) which then gets enriched by more detailed information. The autobiographic or episodic-autobiographic images prove to have a different status as well as a different process of generation. They appear not to be generated as specifications from a generality, but start from a different footing alto-gether. The autobiographical category needs most time in generation, but scores highest on vividness as well as on accurateness of recall.

This is research Stanislavski would have loved. In fact the results run completely parallel to the build up of the series of acting exercises I have presented and their relative ease or difficulty of execution. Amateur acting is the default exactly because it uses the quickest and most accessible way of image generation: the general image. System practice always insists on specification, using specific images and avoiding the general level altogether. Such a specific image is for instance generated in the sense memory exercise. That autobiographical images are hardest to generate but are most vivid, is mirrored by the special status of the emotional memory exercise, and its long time span.

ii. Into neuroscience; feelings according to Damasio.
Two crucial elements that we encountered in making this comparison have been studied extensively in recent neurobiological research: Feelings and Mental Imagery. What can the empirical findings from fMRI scans add to the discussion? Can findings on the basic neuronal level clarify the workings of these concepts? I will present brief summaries, concentrating on the work of experts in the respective fields.

Neurologist Antonio Damasio is a leading expert in the field of the neurobiological foundations of human life. In his latest book *Looking for Spinoza*, he investigates what emotions and fee-lings really are, relying on fMRI scans and extensive neurological practice for evidence.[105]
Damasio starts out making a clear distinction between the terms. 'Emotions' and 'feelings' are seen as two sides of the same process: the former are publicly expressed, visible, whereas the latter remain private. 'Emotions play out in the theatre of the body. Feelings play out in the theatre of the mind.'(28) And contrary to expectations, the emotions come first, preceding feelings. This is because evolution came up with emotions first. Damasio analyzes them as basically bodily reactions, forming a high level of the *homeostatic regulation* that takes place in our body. The structural set-up of these unconscious bodily processes is represented by the

picture of a tree, containing all the different levels of automatic life governance of living organisms, and growing upwards towards the level of consciousness. Emotions form the top branches of the tree.(32) Basically they are a more sophisticated form of the many survival mechanisms an organism possesses, generally they are automatic and largely innate. Humans can learn to consciously control these emotions through the will, which makes them stand apart from other animals.(52) Emotions are hence described as patterns of chemical and neural responses; they are bodily phenomena and not cognitive.

Cognition only comes in when feelings appear. On top of emotions, depicted in the tree image as the leaves of the topbranches, they are 'a mental expression of all underlying levels of homeostatic regulation'.(37) Feelings are described as 'the idea of the body being a certain way'. They are inner perceptions of the *brain's body maps*, which map different states of the body; these maps are also called *somatosensory,* meaning they have to do with sensory signaling from parts of the body to the nervous system. The perceptions in turn result in a mental image, an idea.(85) Feeling is hence defined as a 'perception of a certain state of the body along with (..) a certain mode of thinking (..)'(85). The original evolutionary function of feelings, it is suggested, was to control the basically automatic emotional states. Damasio corroborates his hypotheses with ample evidence from fMRI scans and facts out of the life histories of his patients.

Reading the book one has the illusion of going over exactly the same ground as Stanislavski's quest for feelings, but starting from the other side. Along the way we meet the very same concepts: feelings, emotion, mental image, and action. His conclusion: 'the contents of feelings are the configurations of body state represented in somatosensing maps'(132) - is much in agreement with the outcome of the System exercises that showed feelings as caused by and following Body. (As was shown in our final scheme:

(8a) OFCognition $\rightarrow$ pers Mental Image (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings)

Damasio by the way seems well aware of the correspondence between his view of emotions and the use of emotions in acting practice.[106]

In fact the point Damasio wants to make in this book is completely in line with Stanislavski ànd with Embodied Cognition, but expressed in terms of traditional philosophy. This point is that mind and body are intrinsically connected, and that they should be seen as attributes of one and the same substance. It is also what ties his research to the views of seventeenth century philosopher Spinoza, and stands in sharp contrast to the dual substance view of the latter's contemporary Descartes, who already played the bad guy in Damasio's earlier book on the same issue: *Descartes' Error*.[107] But this specific philosophical battle will not interest us here. Nor can I do justice to Damasio's exposé of large social and rational influences operating on feelings.

What counts here is that, according to Damasio, it should come as no surprise that feelings/emotions occupy the special place at the end of the Stanislavski chain, nor that they are embodied and to be reached through bodily activity. Of course this is so, since feelings themselves *are nothing else than* perceptions of brain mappings of such bodily activity, become conscious. Feelings are thus Mind, but a very bodily part of Mind, directly based on the completely bodily emotions that are largely unconscious. So indeed there now appear to be two areas of Mind, as was hinted at in section a. This in turn would justify the 'roundabout' route the System takes and show how right Stanislavski was in his observation that the emotions have to be lured out of their hiding places. When one approaches them directly, as an 'idea of an emotion', one is already in the conscious area and thereby misses the point.

Sketching the build up of the human mind Damasio also considers the all important role of mental images in the functioning of the organism. But he speaks of a different, more primitive kind than the ones used in the system. He postulates two kinds of images: those 'from the flesh'

are inner directed, mapping internal organs and states. The second kind is directed outwards, stemming from sensory probes like eye and ear, which map modifications brought on from outside. He then locates the interface between body and this mental imagery to exist in neuronal regions that correspond to and map bodily activity. And there, in the brain, the mind *arises* out of the body (195). It thus is in the strictest sense embodied, a word Damasio does not use by the way. The 'bodily images' are quite different from our actual mental images, because the latter can be and are manipulated. They are added in a later, conscious stage, helping mind in its basic tasks for survival.

All this adds up to Damasio picturing Mind as being 'made up of images, representations or thoughts of our own *body* in spontaneous action or in the process of modifications caused by objects in the environment' (214 - my emphasis). Such a definition is quite untraditional, linking Mind first and foremost to Body instead of to abstract thought. It certainly would account for the close natural links of Mind and Body suggested by EC theory and found by system practice. What it does not yet account for is Mind as a repository of social influences and cognition of various sorts - that mind would develop subsequently as the result of our capacity for 'second order ideas' (215). What Damasio describes here, leaning as heavily on the writings of Spinoza as on neurological research, is a layered set-up of Mind, starting out with a primarily bodily mind. This would be a Mind2 as suggested in scheme (8d), found at the end of the System chain. We can call it 'Personal Mind' or 'DamasioMind' for now, until more will be said in section d.

iii. Into neuroscience 2; mental imagery.

The popularity of mental imagery as a subject for scientific research has varied considerably in the past century. Already in 1890 pragmatist philosopher William James devoted a chapter of his *Principles of Psychology* to different aspects of the Imagination, actually foreseeing many of the issues at stake here.[108] As a topic it was completely neglected by the psychological school of behaviorism, which denied the usefulness of such a thing as 'mental image'[109]; but in recent years it has become again a respectable subject of researchers in the field of cognitive neuropsychology. To give an overview of recent publications on the subject would mean writing a separate thesis; every year numerous articles are added to the body of work in this especially active field of research.[110] Not to drown in this ocean of highly technical literature and its colorful brainscan pictures, means we have to focus sharply on those parts which might pertain to the Stanislavski practice in a comparison with theories of embodied cognition. In our schematizations we have seen the pivotal role played by the (personal) Mental Image in connecting Mind with bodily action. Entering the field of neuropsychology, what interests us is how exactly a mental image might lead to motor action, on the neuronal level. And what neural circumstances would turn such a connection from being a possibility (as is the case with the so-called 'general image') into a necessity (as is the case with the 'personal image').

Any introduction to the field starts out by distinguishing mental imagery from perception, which is the registration of physically *present* stimuli. Visual mental imagery (or: MI) is 'seeing' in the absence of immediate sensory input.[111] So in fact the connection between MI and physical action could involve two stages: from Mental Imagery to Perception and then to Action. I will discuss both itineraries, taking my cues from experts in the respective fields: mostly Stephen Kosslyn and associates on the first path, and Marc Jeannerod for the second, supplemented with other voices from neurosicence as well as philosophy. There is no pretence of completeness here. Also it is good to warn beforehand that in this highly active field undisputed conclusions are rare.

Already before the advent of brainscanning apparatus Martha Farah answered the question

whether mental (visual) imagery is really visual affirmatively.[112] At that time this was
not at all self-evident: imagery and perception were considered quite different processes. The
reigning paradigm, as advocated by Pylyshyn, argued that the representations used in mental
imagery were of another nature than the representations used in perception. The image created
in the 'mind's eye' was thought to be coded differently than the results of direct, veridical
perception. Farah refuted this claim, on evidence from both psychology and neurology, using the
early measuring methods of EEG, ERP and rCBF.[113] Her conclusion was that mental imagery and
perception share common neural substrates, and that 'imagery engages visual cortex' (p8).
Which does not necessarily mean that mental images are the same 'thing' as perceptual images.
The format of mental imagery according to Farah is quite independent from its functional
similarity with perception. In fact MI can be distinguished as to its neural *substrate*, its *format*,
as well as to its *function*.[114] MI might still be like a real picture projected somewhere in the
brain, or not like that at all, or different in different cases.
In the nineties, when neuroscience turned to the method of scans, the relation of imagery and
perception was even more thoroughly investigated. Foremost in this research is the group
around American neuropsychologist Stephen Kosslyn. Complementing the Farah arguments
from psychology with results from detailed PET and fMRI scans, their conclusion is phrased
differently but essentially the same as regards substrate: 'mental imagery activates Area 17'.[115]
This area is a part of the 'occipital lobe', located at the back of the head; it is the part of the
brain which is mainly responsible for our visual capacity. It is also called 'early visual cortex',
being the product of an early evolutionary stage. (Appendix D gives a concise introduction to
the brain, its regions and the neurological jargon) What is special about Area 17 is that it is
organized in a *spatial*, or topographical fashion, meaning that the representation of a spatial
phenomenon is itself spatial too. This means that the format of these mental images would be
(somewhat) like that of real images, quite contrary to the Pylyshyn view.
Kosslyn 2005 presents his current theory of mental imagery in a comprehensive model,
consisting of six perceptual processes. Throughout there is a substantial parallellism between
imagery and perception as regards substrate - MI uses the same areas - but also as to function:
'topographically organised early visual areas play a functional role in some types of image-
ry'(p342). The final hypothesis is that 'visual mental images are formed by using stored informa-
tion to reconstruct spatial patterns in topographically organised cortical areas'.[116] This goes to
format: the areas are numbers 17 and 18 (located next to 17 at the back of the head) and the
imagery involved is spatial or 'depictive', rather than descriptive as is the case with language.
But Kosslyn et al. 2004., surveying a larger area in a methodically more detailed investigation,
presents a more diffuse picture. It confirms the involvement of early visual cortex, especially of
area 18. But though parallels between MI and perception are found, in this study any suggestion
of a one to one relationship as regards substrate and format seems to disappear. The four
imagery tasks under investigation are shown to involve many different brain areas, but surprisin-
gly *not one* area is involved in all four activities, and only a quarter of the total is shared by two
or more.[117] The authors concede that the most striking result was how far results deviated from
predictions. What this suggests is that cognitive faculties indeed are not 'unitary, but rather to be
accomplished by a host of processes working in concert' (p697). It also gives a taste of the
methodological uncertainties involved in research in this field.[118]
Still, despite the distributedness and unclarities, experts do agree on a general functional
parallellism between mental imagery and perception. And this is the aspect that interests us
most, because we are investigating how a certain ('personal') form of MI would automatically
lead to motor action.

Now for the second step, of perception to action. Here a new neural possibility occurs. Research

from Millner and Goodale, Jeannerod and others, distinguishes two neuronal pathways or 'streams' involved in visual perception: ventral and dorsal. The pathways form the connections of the visual center with other regions of the brain. The claim is that *visual awareness* depends largely on the ventral stream, responsible for object recognition and identification. This should be separated from the capacity for *visually guided action*, which engages the dorsal stream connected to the cortical motor areas. According to this *dual vision system hypothesis* both streams would function independently.[119]

The possibility of a shared neuronal mechanism of perception and motor control is the specialism of French psychologist Marc Jeannerod. Continuing the dual systems hypothesis, he makes a distinction between *visual* and *motor* imagery, the former being the most usual form. Motor images differ because they are internal, first person processes, experienced from within, not easily described in language and better demonstrated in action.[120] For example: tying a shoelace, or jumping a hurdle. Motor imagery is known to play a large role in the training and preparation of athletes, in so-called 'visualisation exercises'. They practice seeing themselves do a high-jump, experiencing it from within or without, before actually performing the jump. And their performance gets better by the imagery.[121]

Jeannerod 95 now hypothesizes that *motor images* actually have the same properties as the corresponding motor representations, that they are so to speak movements without muscles. Or as his English colleague Annett states: [this] 'mental activity is essentially suppressed physical activity'.[122] Evidence comes from physiology as well as brain research.[123] Jeannerod finds: 'Consciously representing an action thus involves a pattern of cortical activation which resembles that of an intentionally executed action'.[124] Annett comes to similar conclusions, but warns that this functional theory of motor imagery can not completely explain the benefit athletes have of the use of MI. A full explanation still might involve other cognitive aspects and associations, not just somatic functions.

A part of perception thus closely parallels action. Still, exactly how would this work at the neuronal level? Jeannerod suggests that the 'representation neurons operating in observed and simulated actions *should be the same* that are active during preparation for real action'.[125] These neurons would fire when seeing *and* when performing the same action. Such *mirror neurons* in fact were found in monkey brains by Di Pellegrino et al, in the premotor cortex area F5.[126] Since then they have become the focus of much neurophilosophical interest, although as Jeannerod notes, 'whether these mirror neurons exist in man is a matter of speculation'.[127] The group of Parman neuropsychologists of Rizzolatti and Gallese repeatedly have argued for the existence of a monkeylike *mirror system* in humans, supposedly to be located in the area 44 of the ventral premotor cortex.[128] Kosslyn 2001 as well suggested this area, also known as Broca's area, to be the likely homologue in human beings and left it at that. Area 44 is part of the human motor cortex and also happens to be the human speech center, which also suggests a connection with language. Rizzolatti et al. found it to be especially involved in movements of the hand. They conclude that this area, the 'ventral premotor cortex' or vPM, has both motor and cognitive functions, such as imitation and action understanding.[129]

Some philosophical authors have already taken the idea of mirror neurons in human brains to its human consequences. Arbib 1999 finds a Mirror System to be the basis for the evolution of language, Hurley 2005 focuses on the ethical consequences of our unconscious tendency for imitation, caused by mirror neurons. Mirror neurons would make the connection of perception to action an automatic mechanism, making imitative action a necessary rule. If this were true the next question is what mechanism inhibits such automatic imitation in humans - because as we know imitation exists, but is not the rule. This is still a very open question, as is in fact the existence of mirror neurons in humans.[130]

Obviously a mirror system, as well as the designated area, would be great candidates for the

localization of the bridge linking perception intrinsically to action. But the existence of
a concrete neural substrate is not critical in searching for a neuronal mechanism matching observation and execution of action. The parallellism might equally well just be a case of functional similarity, highly distributed over brain areas and not resembling a somatic law. Even without mirror neurons a certain parallellism of perception and action in humans has been demonstrated - and even with them it would be clear that they do not rule 'across the board', uninhibited by other forces.

Meanwhile the question as to neural substrate of mental imagery is far from solved. To complicate matters even more we will shortly return to the dual vision systems. Kosslyn's model of perception incorporates the idea of two neuronal streams involved in perception as an accepted fact. Mazard 2004, an associate of Kosslyn, investigated whether there exists a parallel split in the neural substrate involved in mental imagery. She compared the activations elicited by *'spatial'* and *'object'* mental imagery respectively.[131] (This split runs parallel to the two forms of perception: tasks of guiding movements involve spatial properties and spatial imagery; tasks of object recognition as to their visual properties- color, shape, texture - involve object imagery.) Perception is split along dorsal and ventral pathways, is MI split the same way? No. Both forms of MI were shown to involve the *same* neural substrate, using *both* pathways. The only difference being that object imagery was more closer tied to the ventral pathway and activated the early visual cortex. Whereas spatial imagery induced a *deactivation* of the early visual cortex and was more closely tied to the motor areas. What this suggests is certainly a functional difference between two types of MI, which may involve a difference as to format, but certainly not a parallel difference as to substrate.

In conclusion we can not really call one of these categories of MI to be more 'embodied' than the other. The distinction of spatial vs. object imagery thus is not the same as the one we found between general and personal images.

iv. Consequences of fMRI for embodiment theory.

Kosslyn resumes, without grand conclusions: 'Imagery can engage neural structures that are also engaged in perception, and those structures can in turn affect events in the body itself.'[132] He even finds there to be much evidence that 'visualizing an object has much the same effects on the body as actually seeing the object'.[133] What transpires as the experts opinion is that mental imagery can and does engage the motor system.

But *can* is the key word here. The basic embodiment we have found is still a possibility, not a somatic law. When Gallese & Lakoff claim that 'imagining and doing use a shared neural substrate', or again that 'imagining is a form of simulation - a mental simulation of action or perception', this seems a bold generalization in comparison with the ambiguity of recent neuroresearch.[134] They are not alone in generalizing the neurological results. In fact the question as to generalizability may be the most interesting for philosophers standing idly around the brainscan apparatus.

Philosopher Susan Hurley also holds the link of perception and action to be a somatic law. She recalls the *ideomotor theory* of William James: every representation of movement awakes in some degree the movement it represents. (This is a phenomenon we know from watching good dancers or athletes and wanting to dance or run ourselves. Equally well known is the fact that this is not an inevitable biological law. Nor does it hold across the board of people watching, as can be witnessed by any dance school teacher). Some researchers suggest ideomotor theory is right, but forget the 'in some degree' completely. A direct link not only between perception and action would be the default in humans, but also between MI and action. 'Just thinking about or perceiving a certain kind of action has a tendency to lead to behavior in line with the thought. When? All the time.'[135] Thus we would have a natural law, linking mental imagery to action.

The default tendency then gets overridden or blocked in adults - by some inhibitory mechanism (biological? social? both?) obeying yet another law, still to be found.

In contrast Millner and Goodale suggest another, more dualist, picture positing firm divisions between the processes of visual awareness and of visuomotor action. The two streams generating two kinds of perceptional images result in possibilities for action, for non-action, as well as for interaction. Here the picture is far from uniform or monistic. In a series of articles that philosopher and robotics specialist Andy Clark has written on the theme of embodiment, - concentrating more on vision than on mental imagery - the struggle between a monist and a dualist, or even pluralist, view is apparent. At first, considering the evidence for human mirror neurons, Clark is taken by the idea.[136] He enthusiastically suggests an integrated model of perception, cognition and action and states pointedly that 'in fact these old distinctions may sometimes obscure, rather than illuminate, the true flow of effect'(p15). He finds the brain revealed 'as the organ of environmentally-situated control' where 'action, not truth, is the key organizing concept' (p15). Then in subsequent articles he modifies this view, losing confidence in the natural ties of vision and action and in the model of embodiment ruling across the board. In opposition to Hurley, Clark gradually finds more evidence in the Millner & Goodale argument to which he comes back time and again and notes a danger in the dramatic shift of emphasis in the new science of the mind, 'of letting the pendulum swinging too far' in the direction of embodiment and action.[137] *Visual experience and motor action: are the bonds too tight?* is the title of the article, and it is answered affirmatively. Clark takes up a bridging position suggesting cognition to be embodied in two distinct ways, involving quite different neural systems in each case. Then in Clark02 he clearly warns against what he now calls 'sensorimotor chauvinism' and favors a dualist view of embodiment going back on the dual visions systems hypothesis. (We will hear more from Clark in chapter 5).

In general it seems that there are arguments to be found for everybody on the neural level: the diffuseness and distributed functioning of the neural substrate seems itself a good argument to be hestitant about postulating somatic, mechanistic laws for the workings of the brain. From the neural perspective cognition (or at least the MI part of it) may still be considered to be embodied, or not necessarily, or to possess both properties at different occasions.[138]

v. Connecting Stanislavski to the brainscanners...

Standing back from the highly specialised neurological research, remembering the schematized exercises, we see a relation emerging. Looking closely at the mental images required in the Stanislavski exercises, we see that these MI's are not just static visuals but can be considered a kind of motor images.

Let us study this up close, starting with the justification exercise:

(2a) Body $\rightarrow$ Mental image $\rightarrow$ Action $\rightarrow$ Body.

Here the MI, starting from a bodily stance, is already and of itself connected to motion. "Judging from my pose, I am a policeman regulating traffic".
The idea is maybe best expressed in the exercise of the 'magical if':

(3b) IFY $\rightarrow$ pers Mental Image (Ip) $\rightarrow$ Action $\rightarrow$ Body + Feelings.

The MI goes: "What would I *do* if I were a prince confronted by a ghost; what if I were attacked by a stranger outside my door..?" The central question is 'what would I *do*?', connecting (personal) image to action and thus to body.

The Method exercises of sense and emotional memory are somewhat different, depending on a combination of an image and 'concentration':

(4a) Txt $\rightarrow$ Mental Image + Concentration $\rightarrow$ Body $\rightarrow$ Feelings
(5a) Txt $\rightarrow$ pers Mental Image (Ip) + Concentration $\rightarrow$ Body + Feelings.

Here the image itself - a cup of coffee, or a 'photo' from an emotional situation, both taken from memory - may still be static. It is the concentration which changes it into activity. Neuroresearch by Gandevia[139] found that the mental activity of 'concentrating on a muscle' greatly increased the stimulation of the corresponding cortical area. This is quite reminiscent of the effect of sense memory exercises. The suggestion is that the process we call *concentration* in fact consists in activation of a neuronal paths connected to (pre-)motor areas, only without willful muscular activation. Concentration is what makes the static image as it were come alive, connecting it to motor cortex and bodily action.

We conclude that the Stanislavskian mental image falls in the category of motor images, or constitutes the first step in getting there via the aditional concepts of Action and Concentration. And motor imagery as we have seen can engage the body. It now becomes clear why the proviso of section 3a is there: *Provided there is a personal mental image (Ip) in between.* The Ip is really a motor image and thus connects the mind with bodily action. More accurately formulated: the Ip constitutes the exact moment and method by which Mind finds its path into Body, the moment when a piece of cognition gets embodied.

Not yet clear is to what sort of substrate this category may correspond on the neural level. The distinction of 'object'and 'spatial' imagery does not apply in the sense that MI as used by the system clearly combines both characteristics. As in Sense memory: first establishing an object and then reaching for it, or in general: combining visual properties with action. Also not clear is why and how a 'general mental image' would nót (directly) activate motor cortex. In fact this could be a subject for an experiment.

vi. ...and to Italian neuropsychology.

But such experiments have recently been performed by the psychologist group of Padova, mentioned in section i - though their research is in no way related to Stanislavski.

Since the nineties this Italian group has turned to modern methods of brainscanning, re-confirming the earlier result that general images are more frequent and faster generated. But their recent fMRI research shows that the step from general to specific image may not be quite as self-evident as suspected, because in fact 'different neuronal pathways support the generation of general and specific images'.[140]. The findings suggest that general and specific mental images are generated with the support of two different neural pathways.[141] This conclusions is put in perspective by the added remark that the process of image generation shows 'a high degree of interaction between imagery and other cognitive functions, such as memory and language'(p550), making it 'a complex and multi-componential process'(p551). In their most recent article Gardini et al. compare the categories of specific and autobio-graphical mental imagery as to neuronal substrate. Here a much greater similarity is found. The two categories are found to significantly activate a common set of neural structures . 'This shared pattern of activation might be the result of an underlying similar format and characteristics (...) between the two types of images and might reflect the involvement of similar cognitive processes'[142]

So there actually is a split on the neuronal level, running along the lines of the distinction between general vs. specific/autobiographical. Here may be a somatic basis found for the diffe-

rence between the two types of acting, amateur and Stanislavskian, or as we have
called them so far: the general and the personal. What remains to be investigated is whether
there is also a neural connection found with motor areas and body.[143]

So far I have called the sort of MI which is crucial to the System 'personal'. This category
comprises both specific and autobiographic categories, with emphasis on the latter. Maybe now
we can specify it in a more philosophical terminology. The move from general to specific
imagery runs parallel to the philosophical distinction of general and singular, or *prototypical*
and *exemplar*. What is the next step, from specific to autobiographic, parallel to?
Episodic autobiographical mental images were defined by Kosslyn as *particular instances of
specific images*.[144] So we would have a particular instance of an exemplar. Gardini et al.
formulate differently: 'Specific images maintain a semantic connotation(..) Episodic
autobiographical images, instead, are clearly referred to a single life event connected with an
object and not to repeated events.' Here the crucial distinction is between *episodic* and
semantic dimensions. Semantic memory is found to consist of 'factual information' whereas:
'Episodic memory has the unique characteristic of enabling individuals to project themselves
back in the past and recollect previously *experienced* events as such, with a peculiar sense of
re-*experience* (..)'[145]
We can also approach this on a less theoretical level. The autobiographical image appears to be
a singular image with 'personal involvement' added. Not a dog in general, not even a specific
dog (that you might have seen a week ago), but the dog you owned as a child and that licked
your face, or the dog that bit you in the leg while running. The 'autobiographic' category brings
along elements not only of memory, but of one's own body and feelings. One might also say: of
lived experience. The last word is the key. What we have called 'personal' seems most of all to
involve the experiential level.

vii. Conclusion of the excursions.

What this lapidary overview shows is that there is no single simple answer to the question of
embodiment of MI on the neural level. For our purposes the classification of Gardini et al. is
most useful and clear, suggesting a distinction as to neural substrate between general images on
the one hand, and specific as well as autobiographic images on the other. The latter category
would be our candidate for being or getting embodied. Maybe, by a careful analysis one can
eventually pin this down to a preference for certain brain regions. Still so far the search for a
neural substrate, specialized neurons localized somewhere in the brain, has proved complicated
and has as yet not yielded many unambiguous results. On a functional level parallels between
neural and mental levels are much clearer, as is shown by the psychological research – but
functional distinctions may not be necessarily mirrored by distinctions of neuronal substrate. It
just might not work that simple in the brain.
What this excursion into neuroscience also shows is that when, functionally, the embodied
mental image can exist, another type of (mental) image can exist just as well: general, not con-
nected to motor cortex and maybe even represented by a description or a symbol. This would be
a dis-embodied MI and it will resurface in the next chapter.
All in all the importance of mental imagery in the context of the connection of mind and body
can hardly be overrated. Which makes the accuracy of Stanislavski's intuition all the more
amazing, hundred years after the fact.

d. What is the obstructing influence on embodiment?

It is time to pull the different strands that were examined together.
We found an essential agreement between acting exercises and the theories of embodiment: a

clear causal connection exists between cognition and the complex of 'body plus feelings'. Provided a 'personal mental image' is present the cognition at hand can be called directly embodied. Recent neurological research confirmed the essential embodiment of feelings/emotions and shows how they are to be located in the interplay of Body and Mind.(c/ii) Neuroscience finds that mental imagery can engage the motor system, functioning as an interface linking Mind to Body.(c/iii) The Stanislavskian image is a form of motor image. (c/v-iv) All in all this provides ample confirmation for the weak claim of Embodied Cognition.

But the agreement also has limitation, as is shown by the proviso itself. Direct embodiment will not always be the case. There are at least two limiting circumstances:

1) We do not as yet know if áll cognition involves a mental image. This will be the subject of chapter 4.

2) In the case of a 'general mental image', the embodiment is nót direct. The difference between Ig and Ip is confirmed on the neural level (c/iv) So even when embodiment is operative, it is apparently obstructed by other influences.

Here we concentrate on the second issue. The question to be clarified is: what is causing the obstruction? Psychological research confirms that general images are the most frequently used category (c/i) which makes them the usual case. This is witnessed in the theater by a preponderance of amateur over system acting. As we know the System has to be learnt, the amateur practice is much more the rule. (At least in our western societies, in our time. It may be different for other cultural traditions.)

Let us once more look at the schematizations of amateur and System acting:

(0d) OFCognition $\rightarrow$ Mind: Idea (Ig) $\rightarrow$ generalized Body.
(10) OFCognition $\rightarrow$ Mind: Personal Image (Ip) $\Rightarrow$ personal Body.

We saw that the 'personal' ultimately leads back to the level of experience.

The question is: what does the *general* category entail that obstructs direct embodiment? Phrased differently: what exactly is it that the System avoids or circumvents?

To clarify the issue let me give one more example from acting practice. An accepted wisdom for actors of stage and screen goes: *never act with children or animals*. Said in jest, it is in fact meant quite seriously. Adult actors fear to be upstaged when paired to either animals or small children. Why? Because children and animals are (thought to be) completely natural actors. Unbothered by onlookers or a camera they simply react to the situation at hand. For adults this is exactly what proves to be the hardest, once put on a stage. And, reversely, this is exactly why animals are studied in exercises such as nr.6: because of their 'naturalness'. Easty remarks that actors in this way can profit from the regaining of some innate qualities which animals possess, 'which have been lost by us over centuries of civilization'.(133) Or over years of becoming an educated grown-up, one might say. We tend to live more 'in the head', the more education we receive. What we seem to have lost then, is 'naturalness'. Or in Schatzki/Wittgenstein parlance: 'spontaneous behavior'. We lose it in the process of socialization. The obstructing influence is un-spontaneous, in-direct in nature. Reversely what animals and small children miss is exactly... this element of socialization. All of this is of course common knowledge, but within our investigation it acquires a new importance.

The general is the rule then, as a result of the socialization process.

So is it the social complex that does the obstruction? In this view socialization would cover up direct natural ties between mind and body, replacing them with generalizations and abstract concepts. In the process direct embodiment of cognition is obstructed and replaced by its socially embedded variant. Varela's EC is as it were encapsulated by Schatzki's social practices.

An answer like this was suggested in section b., where I made the philosophies of embodiment

defend their generalist perspectives. EC might be obstructed by a social or cultural influence; and in the theory of Socialized Embodiment spontaneous behavior could be obstructed by an 'intervening conscious thought'. The common obstruction could be identified as the consciousness of an actor that he is being watched, that 'society is watching'. The Social influence plays the bad guy here, leading to a stiffening of... well, of what exactly? The personal? The individual? The natural?

The tendency is to equate these categories, pitting them against the common enemy of the general/social/civilized complex. Seen in this perspective, the System would provide a road into the 'lost country' of direct, natural, personal embodiment. Suggesting the romantic picture of the System actor as a noble savage, retrieved from under the oppressing forces of civilization and made animal- and childlike again. As regards cognition, appealing to the same romantic instinct, the embodied variant then seems highly preferable to any other form.

But as we saw in section b. the opposition of general vs. personal can not simply be equated with an opposition of Social vs. Individual. The Schatzki/Wittgenstein theory as well as EC oppose such a view, especially the suggestion that a 'natural individual' would be found when only one could scrape off the layers of civilization. Both individual ànd society are constituted in the same process of embodiment and socialization and without it there would be no individual at all. Nor any 'naturalness' as opposed to 'social stiffness', or personal images as opposed to general ones. All these categories are to be found within the individual realm, they belong in the same camp so to speak, and in applying them here we have not yet identified the real opposition.

To escape this dead end I think we have to transcend these perspectives. My suggestion is that the real opposition at stake is the one between *knowledge* and *experience*. That what the system really does is connect cognition to *experience,* as was already suggested in sections b and c/vi. While the general image belongs to knowledge, the episodic-autobiographical image in its System use belongs to the bodily world of lived experience. Through what we so far have called a 'Personal Image' (plus the associated Action) the mind connects with the level of bodily experience - and equally important: without the Ip this connection can not be made.

What the System does, the movement from general to personal, is in fact a movement from knowledge to experience. Another way to phrase this essential movement is in terms of the distinction between 3d and 1st person perspectives in the sense as used by EC theory (Chapter 1b). The System provides a road back to the organic '1st person' perspective, including direct embodiment: a direct bodily feeling and living of events without any distinctions made, nor formulations in words.

There seems to be a strong parallel here with the Heideggerian scheme sketching the primordial nature of *the being of Dasein* in a non-dualist, non-traditional metaphysics. Perhaps this is most clearly expressed in the categories used for Dasein's meeting other non-living being: this is primordially *ready to hand* and only becomes *present at hand* when the unpremeditated ties are broken, when thought and classification enter and distinctions have to be made.[146] Another way of pointing at the same difference is the distinction Schatzki makes between *being* and *having* a body; the latter situation appears in case of malfunction etc., when one becomes conscious of what is otherwise an automatic experience.[147] Note that what is sketched here is not just the pre-linguistic stage of an infant, but the automatic stage of living of any adult, *experiencing* life as it unrolls without reflection – in a *para-linguistic* mode.

Schematically we would then have an opposition of the 3d person knowledge, including all conceptual oppositions, reached in a process of socialization - and experience, directly tied to body, '1st person' and subjective[148]. 3d person knowledge is the obstructive influence we sought, taking precedence over experience. (In the next chapter we will explore in more detail

how this comes about, focusing on the central role of language) What we admire in animals and small children on stage, is their shamelessly direct, 1st person behavior, unbothered by 3d person considerations: they present the phase of living as primarily (private) experiencing against that of (socialized) knowing. Shame in turn is an expression of the 3d person consciousness taking over.

A remaining difficulty is that the term Cognition encompasses both sides, knowledge ànd experience. And also 'Mind' contains both. We will presently see what problem this presents for our discussion of Mind and how it can be overcome.

e. Consequences for Mind and a provisional model.

What does all this mean for our basic triangle of Body, Mind and World? And especially for our concept of Mind, that evergreen of philosophical themes? In this section I want to go beyond the comparison to achieve a provisional, somewhat speculative synthesis.

But a warning is in order. What might bother us here are just our own categories, and their reification over ages of use. The term 'Mind' of course originally was just a shorthand term, to describe a collection of 'vague' processes taking place supposedly in the brain, ranging from the very simple to the very elaborate. The same goes for such household words like Emotions and Feelings; clear as their concepts may seem, when we take Wittgensteins advice to be wary of words as 'essences' and instead ask how these words are actually used or how we would explain them to a child[149], we feel the quicksand on which these concepts are built. In defining their actual content we can do little else than to lead them back to examples from practice. Ultimately we are trapped in this movement of describing and re-describing our abstract categories in natural terms, without suggesting anything like a metaphysical foundation. Mind in the end is nothing but a name in need of specification. It might very well be subdivided along lines of its functioning. The effort of naming is, in Dennett's phrase, to 'carve nature at its joints'. I will try my hand, not cutting through bones but showing what bones there are by cutting around them.

In section a. speaking of feelings, a speculative model of two Minds was suggested:

(8c) Mind1 $\rightarrow$ MImage (Ip) $\Rightarrow$ Action $\Rightarrow$ Body + Feelings(Mind2).

It seemed two forms of mind are operative. The System appeared to operate via cognitive Mind and Body, finally reaching the unconscious Mind of feeling/emotion. Alternatively, we might have called them General and Personal Mind.

In section c/ii we saw an evolutionary account by Damasio of the birth of a mind arising out of the body, containing the category of conscious feelings. This would be Mind2, strictly personal and completely embodied. Let us rename it DamasioMind.

On the other hand there must be a mind as we know it. In his famous book on evolution *The Selfish Gene* biologist Richard Dawkins coined the name *meme*, as the typically human variant for genes[150]. Memes are roughly ideas. They replicate just like genes, only much quicker, springing from mind to mind by ways of language and education - almost like viruses. Philosoper Daniel Dennett took up the idea, stressing its central importance in the shaping of what we call mind. 'Thousands of memes, mostly borne by language, but also by wordless "images" and other data structures, take up residence in an individual brain, shaping its tendencies and thereby turning it into a mind.'[151] This could be a clear evolutionary account of the birth of General Mind, or let us call it for the moment DennettMind.

Still the existence of two 'minds' is quite remarkable. How can it be that both DennettMind and DamasioMind exist, apparently alongside another? After what is said in section d. I suggest that Mind2 would better be termed Experiencing mind, the mind as it is and functions when directly

experiencing events.

This would be a practical description of development of the complex we call the human Mind: In the infant stage the brain is a physical control center, a function it has already at birth. If one calls this a mind, as Damasio does, it is a completely personal mind. It is closely connected to the body, and physically part of it. One might call this PMind, EMind, DamasioMind or even the real Embodied Mind - but the names really suggest a thing, when what is described is really a modality of its function: viz. experiencing. Which means the direct perceiving of a body meeting up with world and attaining a consciousness of these perceptions. This EMind is no different in humans than in animals.

Then throughout early human life, the worldly mind takes over in the brain. It is made up of concepts, words, and combinations of these combined into highly structured thoughts, judgments etc - all of which are acquired in a process of socialization. Let us call this SMind. Though it need not be strictly limited to humans, that is the form which interests us here. Obviously SMind is closely tied to the phenomenon of language, and develops quickly during the years when language is acquired. This then is a 3d person Mind (meme-Mind, General Mind, DennettMind): it is built not only on direct perceptions and experiences, but on the generalizations made out of other people's perceptions and experiences, put into language by ways of words.

EMind and SMind are not so much two partners 'living together', making up a whole which we come to accept confidently as 'our Mind', as they are two modalities of the same entity: one using reflection, the other direct. What the Stanislavski research does show is that the reflecting SModality takes precedence and has an obstructing influence on the original experiencing. And that it takes an effort to get to the experiencing level once the third person is in place. Still it remains possible to effectuate that, as is shown by the series of acting exercises. One could argue that EMind as found in system exercises can not be equated with Damasio's pre-linguistic mind, because it is an adult mind and thus linguistic. Still it is the same: because experiencing remains a pre- or para-*linguistic* process. At a certain age words can be found, but the words must go to great trouble to *give* the experience and not describe it. If the System leads to a 'lost' country, it is the one of experience.[152]

Already in 1989 psychologist Piet Vroon pointed out that a non homogenous build-up of Mind could have a physical substrate, in the layered architecture of our brains.[153] The evolutionary development of the animal brain has resulted in humans in a structure of three different brains grown on top of each other, stemming from different periods of animal history. In this model the neocortex is the latest development, sitting on top of the much older brain stem and limbic system, providing space for the enormous development of human thought. An added mystery is Dennett's suggestion, that the human brain completed its uniquely large appendix and finished the 'Great Encephalization' around 150.000 years ago, *before* language actually came in.[154]

But I will leave the evolutionary and biological considerations aside, focusing instead on the more philosophical issues. The two modalities of Mind entail two modalities of cognition: knowing and experiencing. The latter is naturally embodied; experience is nothing else than a name for bodily perceptions become conscious. Which still leaves the former, knowledge, to be further investigated as to its embodiment. And there still is the question what exactly forms the dividing line between the two modalities of Mind. In the next chapter both issues are tackled in an investigation of the role of language.

*

Before that it is tempting to sketch the consequences of what is found so far for the basic triangle, provisionally though it may be.

In this context one more issue has to be discussed: the concept of 'self'. Mind is supposedly not just the 'place of our thoughts' but also the seat of our personality, the place where awareness takes place and where the self is found. How is this view changed by the division between EMind and SMind? Where in fact is this Self, this treasured concept of philosophy?

Damasio argues that to our 'sense of self, or 'core self' has an organic basis:[155] the mapping of body states in the brain. This is not where Self is to be found, it *is* what we have come to call self. For clarity, Damasio is talking about a pre-linguistic bodily feeling of self, not the meme variant which we acquire later. Picturing this in our basic triangle this would place Self on the line connecting Body and Mind, located close to the body. The System exercises in turn suggest that the experiencing Self is to be found in our basic embodiment, to be reached by a careful descent into the body. Note that we have been talking about EMind as an experiencing modality, and the accompanying sense of self would be the *experiencing mode* of self. But what this points out is a sense of self which is Body much more than it is Mind.

What we can model now is the triangle as it would look in the experiencing mode, substituting EMind for Mind. The model I propose is more of a right-angle than a real triangle. The bottom line is the one connecting Body and World, EMind occupying the top corner, above Body. 'Self' in this highly simplified drawing is sandwiched between Body and EMind.
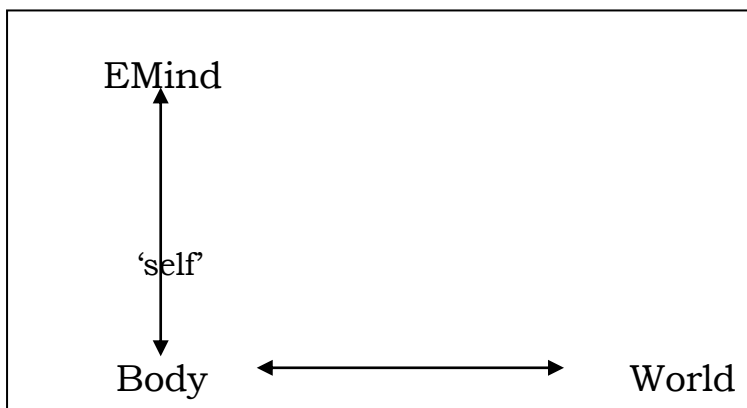
The important aspect of this model is that the main connections are running via Body.
It remains to be seen how the triangle changes when we investigate SMind.

Chapter 4.
DISEMBODIED COGNITION AND THE ROLE OF LANGUAGE.

a. The second question.
We have answered the first of our main questions: is the Stanislavski practice an illustration of embodied cognition and thus a corroboration of that theory? Yes, it is. But. There are limits to the agreement.

Arguments for the limitation of embodiment were found in several places. Wilsons subdivision of forms of embodiment already suggests that EC does not function like a uniform law for all cognition. In the comparison with acting we saw the agreement disappear when a 'general image' is used, as is the case in much amateur acting. Throughout we heard hints from philosophers and neuroscientists, suggesting that words and language might play a complicating and obstructing role in the natural process of embodiment.

In section d of the last chapter the limitations were pinned down and found to be twofold.

- Obstructed embodiment of cognition. The obstruction was found, in sections d and e, to be caused by a predominance of the general level of 'socialization', over the personal level of experience. This still leaves the question unanswered whether embodiment holds across the board of all cognition. So we have to adress the issue of:

- Possible non-embodiment of cognition. So far not much has been said about thoughts and abstractions, which make up an important part of Cognition. Are they embodied as well? In other words: does all cognition bring along a mental image and can any mental image be directly embodied? Or is some cognition non-embodied? That question will be the subject of this chapter. (And by the way it was also the remaining item of the to-do list of chapter 2.)

It brings us to the second research question of this thesis. Literally it was formulated:

Can (Stanislavski) acting practice also function as an illustration of the limits of EC, can it show what the limitations of embodiment are and why they would occur when and where they do?

This will be answered in the present chapter, by focusing on the central role of language, while allowing for a somewhat freer, more speculative approach.

I will start with one more example from acting practice: acting on words and concepts. This will clarify the issue, provide empirical examples and suggest a possible explanation.

In the next section I find theoretical support from linguistics and philosophy of language, turning the explanation into a working hypothesis of gradual disembodiment. The hypothesis in turn is checked for corroboration against the original philosophies of embodiment, as well as a disinterested 'second opinion' from neurophilosphy.

Consequences for Mind following from the hypothesis of gradual disembodiment of cognition are noted. Then findings are put in two models: A speculative model of the general architecture of body and mind, highlighting the role of language. Followed by a second model of the basic epistemological triangle, to be added to the first. This adds up to giving an, affirmative, answer to the second research question. I end off with some thoughts on the possible consequences, for philosophy and for life.

b. Acting on words.
We saw an important difference between the normal, everyday acting that any adult person can do, or try to do, and the Stanislavskian approach. In the schematizations of 2c and the following discussion it was reduced to an essential difference in the mental image involved: general vs. personal. The latter leads to an embodied form of acting, the former was shown to be based on images associated with general words, or as we have called them: 'ideas'. The psychological research of Cornoldi et al. showed this to be the most frequently occurring category: people will

turn a word first and foremost into a general image.[156]

Still 'general' does not necessarily mean that there is no bodily connection. A personal fear can be played in an embodied way. But also a general 'fear' can be played, as we have seen in amateur examples. It may not be personally truthfull, but the assignment: "play fear" does inspire a certain and quick bodily reaction.[157] So it is somehow embodied, though not directly. The remaining question now is whether *all* general cognition can be thus enacted. Can we play any word, or word combination, in this general way of illustrating an idea?

Because, if not, we will have found a category of non-embodied cognition.

<p style="text-align:center">*</p>

A famous, and infamous, acting assignment goes:

"Play a fried egg". Or: "play a tree".

It is sometimes given in preparatory classes or low-level courses of theaterschools. The purpose is that the actor should embody such a concept and act it out, not just sit and say "I am a tree". Though there are no fixed rules for such an assignment, usually no talking will be allowed, as neither trees nor eggs do much talking. But the actor surely can make sounds while enacting the word. In fact most of this will go unsaid, to challenge the actor's imagination.

Exercises like this are hated by many actors. Later in their careers they make a nice story out of their memories of them, mostly to illustrate the stupidity of the teachers who subjugated them to such nonsense. But in fact the exercise is neither impossible nor stupid; when taken in a light, childish way it can prove to be very useful in training the capacities of imagination and association. It may not produce the lofty acting of 'deep emotions', like those of Medea, but it is fun. To be clear: this is not a System exercise. [158]

In the context of a research of embodied cognition this exercise acquires an added value. It will help answer the question whether embodiment holds 'across the board' of cognition: Can we 'play' any piece of cognition and if not, where is the dividing line? 'Playing' here is meant as acting out, illustrating, giving bodily expression to. In answering this question I necessarily have to limit myself. I will concentrate on the category of simple nouns and some of their combinations in sentences, as nouns are important carriers of cognition; in passing some remarks are made as to other syntactical categories. Verbs surely are the next interesting category; often they are easy to embody, as they are themselves descriptions of actions.[159]

The reader can actively participate by allowing him/herself to react primarily to the assignments and try, or imagine, to illustrate in the most direct, childish way. The descriptions are mostly based on my own experiences with this exercise, as a director as well as an actor, in some cases on what I expect to happen. Note that the purpose here is not that an audience should be able to guess from the performance which noun is embodied, (as is the case in the popular tv-show *Hints*); the primary aim is to see if the actor starts *doing anything at all*.

So here we go:

- "Play an egg". The actor will assume some kind of waiting stance. Somebody rolled over the ground, then 'broke' against a hard surface.
- "A fried egg". Actors will fall down dramatically, as if thrown in a pan, then somehow start to shake and bubble.
- "A boiling egg". Harder than the frying variety, but most likely some action will ensue.

The combination of adjective and noun makes the task feasible, because the adjective points to a visual property as well as an activity. 'A rotten egg' will be much harder.

Let us allow for some digressions to get used to the scope of this exercise:

- "A row of eggs". Some pantomime or hand movements to illustrate the idea of a row of the

same entities. The plural already seems harder than the singular.

- "The boiling of an egg". This is an activity. It leads to some easy pantomime. The verb is active and can be illustrated.

- "Waiting for eggs to be hardboiled". Actors can do this; wristwatches are checked, kitchenclocks used. The verbs and nouns involved can still be bodily illustrated.

Now we try simple sentences, concentrating again on nouns:

- "Hardboiled eggs use six minutes of boiling". What will the actor do?

- "Eggs are poultry products".

- "Eggs contain cholesterol".

The last two are the hardest, or even impossible without speech. All of them are general sentences. An illustration would take an enormous amount of time and effort, certainly when compared to just speaking the words. They are typical examples of what we usually call cognition: pieces of knowledge. Can the cognition of the last sentence still be called embodied?

The problem seems one of levels of categorization. "Eggs" or "Chicken meat" refer to stuff in the world, which can be shown, or pointed out. *Poultry products* is the comprehensive term for a whole array of such products, all derived from birds like chickens and turkeys - it is a word summing up different objects into a higher order category. *Cholesterol* is the name for one of the many chemical substances which make up an egg, but are invisible to the human eye. It can be seen as a name of a materially lower order category, but still above 'cell' or 'molecule'.

The possibility of illustrating a cognized concept, and thereby embodying the cognition, is closely connected to the category level of this concept. As a rule of thumb we find that what you can point out in nature, you can embody. Let's call this the ground level of our category hierarchy (of nouns). For instance: 'Elephant', 'chair'. The cognition that is embodied is a single exemplar of a general term: it does not need to be specific nor particular. Essential in the potential for embodiment seems the direct sensory aspect of the object, affording the possibility of interaction. We find that when we jump to another category level - higher for poultry product, or lower for cholesterol - illustration by bodily expression is already very hard if not downright impossible.

Let us try one more virtual experiment of expressing nouns, to check these findings.

-"Play a tree". The actor stands up, spreads the arms in some way, posturing as a kind of tree.

-"A very old oak". The actor adjusts his posture and facial expression.

-"An old oak falls in love with a cow". Though this requires pantomiming and running to and fro, actors will find it relatively easy. The central action, of falling in love, enlivens all nouns involved. Actors could even embody a stone wall falling in love.

Now let us leave the ground-level:

-"Play a forest". A huge collection of trees, sure, but how to distinguish this from a 'row of trees'? Takes a lot of 'circumstantial evidence' and some guessing from the audience, as in Hints.

Gradually moving to higher forms of abstraction, consider:

- "Play forestprotection". - "Re-forestation". - "A re-forestation programme".

- "Play flora". "A biotope".

As we get to generalities of a higher order the physical associations stop. Remarkably, this does not mean that the imagination stops, or that no mental image is created. The word 're-forestation' brings along not so much an image as a clear piece of mental film, with bulldozers and people working on an arid piece of land, maybe even including the voice of a commentator. *What it does not bring along is an incentive to direct bodily action*. It is as if the mind realizes that a concept like this requires many lower concepts to be understood first, just as a platform requires pillars. The embodying of the pillars, themselves groundlevel or first-level words, may be possible separately, but seems impossible in a combination. In climbing up the ladder of

abstraction direct embodiment gets lost. And this happens in a very direct sense, as if a connection is shut off. One is tempted to think it is the neuronal connection with motor areas.
- "Play the category of trees". Here the actor draws a blank.
I think every actor, even the most willing and playful, will draw a blank. Which can be a huge relief after playing fried eggs and trees for some time. How can you translate an abstraction like 'category' into physical action?
The same goes for "the meaning of an egg". Many terms out of the philosophical jargon will make the actor stop short.[160] And jumping to other areas of human endeavour one thinks of words like: 'democracy', 'coordinates', 'insurance policy', or terms from mathematics. To play 'democracy' we really have to revert to the strategies of the television game, using escape routes such as 'looks like' and 'sounds like', or dividing a word in different syllables and then enacting one of those.

<p style="text-align:center">**</p>

This is of course more a thought experiment than a real one. (Though it could easily be turned into a real experiment). Still I think even in this elementary form it shows that there is a clear limit to what is automatically embodied and embodiable. My hypothesis is that when we move away from the ground level of nouns, in the process of abstraction - be it generalization, or analytical subdivision - the ties with body and action are strained and utlimately severed.
I think it must be possible to establish a hierarchy of categories of nouns. On the ground level each word represents an object that can be pointed out in the world, having a sensory aspect. One can also try to identify this ground level semantically: within a certain language community these nouns designate objects that can be empirically perceived. Active verbs would also belong to the ground level. But in fact such a ground-level category can be just as well described from a perspective of interaction, as in a description of Eleanor Rosch's basic categories: 'The object appears to the perceiver as affording certain kinds of *interactions*, and the perceiver uses the objects with his *body and mind* in the afforded manner'.[161]
Moving to a higher first level, nouns represent combinations of two or more ground-level words. For instance: *voyage* would be a word on that level; to explain it to a child one may require ground-level words like 'car', 'house', 'you', 'me', 'grandmother'. On this first level embodiment still exists, one can play the idea of a voyage. Interestingly, such a structural set-up of language would mirror an old distinction of empiricist epistemology, between simple and complex ideas (by Locke) or *impressions* and *ideas* (by Hume): the former category consists of knowledge directly acquired through the senses, the latter is made up out of combinations of the former. [162]
A 'forestvoyage' would be a complex word, belonging on the second level. Taking two steps up in this building of nouns would mean an almost total loss of embodiment, though not of accompanying imagery. How many levels of still higher abstraction are to be found in such a hierarchy would be a matter for linguistic research. Limiting ourselves to natural language the number seems not to be very high; the amount of abstracting steps humans can handle does seem to have a limit to it. But the point is that already reaching the third 'floor' of this building of noun-categories, and having a conversation on that level would make for a text with no direct bodily connections.
Now 'forest voyage' may be cognition, it is not yet a typical piece of knowledge in the usual sense. That would be something like "Forest voyages are boring", or "Forest voyages are more costly than travels to the beach". More general: a proposition of the sort Kant termed 'synthetic', where an entity *(subject)* is coupled with a property *(predicate)* found through empirical investigation. Take "Elephants are the largest living mammals". Pictorial though the sentence

may be, it does not incite bodily expression. This is not just a matter of the nouns involved. The plural - 'Elephants'- is already harder to embody than the singular, as we saw. But it surely is a matter of verbs too: the verb 'to be', omni-present though it may be, is in this context a silencer of bodily action.[163] Again we see a hierarchy, now on the level of sentence-building: in itself the adding of a predicate does not necessarily obstruct bodily expression, but the propositional form does.

So far I have been investigating language, and postulated that it contains a hierarchical structure as regards sensory aspects of words. What does this mean for cognition? Not all cognition goes by ways of language. As we saw in chapter 3, Damasio describes a basically pre-linguistic phase of emotions and feelings. But these mental states can subsequently acquire a distinct name, to represent them and keep them apart without having to experience them all over. Dennett suggests, as does Damasio, that words may have originated in evolution as a shorthand for the developing organism.[164] Using words for combination and manipulation, the developing mind moves 'upwards' to higher levels of cognition. In that way language, and its basic categories like verbs and nouns, is foundational for all higher cognition. The activity we call 'thinking' is in fact an internal manipulation of different phenomena, represented by their shorthand delegates: words. As Wittgenstein said: 'we may say that thinking is essentially the activity of operating with signs.'[165] Michael Tomasello stresses that 'the structure of linguistic communication influences children's construction of cognitive categories'.[166] Higher cognition goes by ways of language.

Now let me once more state the problem clearly: if cognition is embodied one expects it to be embodied in every aspect, and thus throughout all of language. In an acting exercise like the above, aimed at connecting general cognition to Body, one would not expect to find differences in degree of embodiment. When these differences do occur, they can still be explained by some inhibitory mechanism of a social/cultural nature obstructing bodily expression. But then again the question is why this inhibition is not operating across the board. What has to be explained is the *gradual obstruction* of embodiment.

From this acting exercise it seems that already within language itself (limited to the category of nouns) there are gradual differences in embodiment. The claim that all cognition is embodied can not hold when the carrier is found to become gradually disembodied. A part of language - the nouns belonging to higher levels of abstraction - gets disembodied and thus a part of cognition is so too. My suggestion is that the gradual loss of embodiment is caused by the structure of language, based on progressive abstraction. This would mean that cognition gradually and necessarily loses its own embodiment. And since it can not be reasonably called 'embodied' anymore when for all practical purposes the ties with body are severed, not all cognition is embodied.

But of course this is too tiny an experiment to support such heady conclusions. Looking for a full explanation of this phenomenon I will turn to sciences that have scrutinized such ideas extensively. A popular view from modern linguistics is contrasted with views from developmental psychology, in an effort to corroborate my suggestion or present an alternative.

c. A linguistic hypothesis of disembodiment.

I will not attempt to give an overview of the scientific debate on issues like concept formation and language acquisition, but instead I will present some views as *capita selecta*, restraining myself mainly to the discussion of nouns. Of course these constitute just a small part of language, and I will thus ignore larger linguistical topics like grammar and semantics, which probably should play a part in a full account of embodiment in language. The central question remains whether all of cognition is embodied and what role language plays in the process.

First for clarity it is good to meet the opposition. There are strong advocates for complete embodiment, of language, concepts and thought. Prominent among them are Lakoff and Johnson. Johnson 1999 recalls disapprovingly the times of the cognitivist model of representation through symbols, disembodied and unmediated by imaginative mechanisms such as MI. For this he substitutes a fundamentally embodied model. Firstly he finds the basic level categories of language to be embodied, much like we did. But moreover reason itself is claimed to be grounded in our bodily nature; among others because it uses image schemes (e.g. Source-Path-Goal) that are body-based. Johnson also refers to the theory of conceptual metaphor by George Lakoff, already mentioned in IIb, which claims that our speech is versed in metaphor, and metaphor has its basis in physical experience. (E.g. the link between 'up' and positive) As a form of representation language would thus be fundamentally embodied and linked to Body. 'Human conceptualization and reasoning are bodily activities' is Johnson's interesting final claim, making reason also embodied *qua method*. But when he states that 'abstract reason is not separate from the sensorimotor system'[167] this is in direct opposition with our findings. If this really were the case, why are the products of abstract reason so completely unplayable? Why do they not incite willing actors to spring to action, but on the contrary cause them to go asleep?

Lakoff and Johnson combined forces in *Philosophy in the Flesh*, a large work aspiring to show the basis of embodiment for all of language and thought. Interesting though the propounded theory may be, it turns a deaf ear to objections and unaccountable phenomena in its effort to claim universality for a law which may be only local. An example of this is their claim that abstract concepts are mostly metaphorical, and even abstraction itself is grounded on metaphor. When the authors state 'What has made science possible is our embodiment, not our transcendence of it'[168] one wonders why abstract scientific knowledge would then be hard to grasp, as compared to say the rules of football.

But we have to be careful with the exact use of the term 'embodiment'. Lakoff (with Gallese2005), adopting the idea of basic-level categories from Rosch, then finds a sentence like "some chairs are green" to be basically embodied.[169] The argument is that such basic categories only exist because of our (bodily) interaction with the world, in this case our propensity to fold our bodies in a sitting position and then give a name to objects that are especially suited for this purpose. "Some chairs are green" is only true, they say, relative 'to our body-based understanding of the world' (p466). Even if one agrees to the embodiment of basic-level categories one may disagree as far as the whole sentence is concerned, as well as the conclusion that *all* understanding is apparently reducible to basic level categories. On this view *all* concepts and *all* thought would be automatically embodied, since *all* higher concepts are somehow directly tied to our basic understanding. This is a much wider interpretation of the term embodiment than I use, and it does not leave room for any gradual obstruction. In the context of this thesis 'embodiment of cognition' means an intrinsic connection of mind phenomena with body, providing a road which might be traveled in either direction. When one claims embodiment across the board one has to account for the fact that, as shown above, in some cases the road from Mind to Body is blocked. And that the obstruction increases by degrees.

In fact the problem with Lakoff&Johnson, as with their opponents of the cognitivist tradition, seems that they are monists and universalists, insisting on *one* law to cover the whole domain. Maybe this is even a characteristic of all science. But a monistic law can not explain an obstruction which is partial and gradual. Why should language be all (embodiment) or nothing? In contrast I suggest a dualist, or even pluralist model - showing different fundamental forces at work, resulting in a multi-faceted structure of our natural language.

**

The Russian developmental psychologist Lev Vygotsky wrote *Thought and Language* in 1930 as a study in language acquisition.[170] After its rediscovery in the eighties in the western world his views gained influence in psychology as well as in the fields of linguistics and philosophy of language. The reason I call attention to the book is that it contains a detailed theory of a hierarchy of words and concepts, grounded on evidence from research with children. Investigating the relations between thought and language Vygotsky finds three elements crucial and related: thoughts, concepts and words. I will limit myself to the last two, and take the connection to thinking for a fact. A quote expresses how important Vygotsky believed this relation to be and how little he believed in a mind thinking without language: 'Thought is not merely expressed in words; it comes into existence through them'.[171]

As his unit of research Vygotsky takes the internal aspect of words, which is the word meaning (p5). The first point of interest is his emphasis on the fact that a word is already a generalization. It 'does not refer to a single object, but to a group or a class of objects'.(p6) And: 'The elements of language (..) must therefore be associated with whole groups, delimited classes of experience, rather than with single experiences themselves'(p8). Generalization makes meaning possible, which in turn is found to be the essential requirement for communication next to signs. What is described is how language makes *intersubjectivity* possible, although that word is not used. Vygotsky concludes that human forms of psychological communication are possible because of generalized concepts.(p8) Or, as Feuerbach is quoted saying, the word is 'absolutely impossible for one person, but becomes a reality for two' (p256). The importance of this point is that it stresses the intrinsic generalized, 3d person, quality of language. Using words means in itself adopting a 3d person perspective and thus leaving the original, first person, perspective.[172] This characteristic of concepts and words can explain the preponderance of the general mental image, as well as the general level of acting, when confronted with an assignment put in words.

But the main argument that interests us here concerns the structural build-up of concepts, and thus of words. Vygotsky already has established that word meaning is the symbol, not of a singular sensation, but of a concept. When he goes on to study concept formation in children, the intrinsic link with words is affirmed: 'The use of the word plays a central role in concept formation' and 'thinking in concepts does not exist beyond verbal thinking' (p107)

The empirical ground for this research is a cleverly designed experiment by Sakharov using wooden blocks of different shape, size, height and color - different as to 4 parameters. Underneath are written nonsense names, like *mur* or *lag*, but the names designate just two of the four characteristics, regardless of their color and shape: for instance 'mur' means tall and small. The participating children are now asked to make a grouping of say 'murs' and by turning the blocks over correct themselves, until the names match up with categories they stand for.[173]

In discussing the results of this experiment the idea of a hierarchical structure in the process of concept formation is established. This is then developed into a pyramidal model with three phases, each subdivided into different stages. First phase is the formation of 'syncretic heaps', followed by a *thinking in complexes* ultimately leading to *conceptual thinking*. The heaps are conglomerations with an 'incoherent coherence', meaningful to the child only. (110) Complexes are categories based on a direct visual likeness. But to form true concepts 'it is necessary to abstract, to single out elements' (135). 'The grouping of objects on the basis of maximum similarity is superseded by grouping on the basis of a single attribute' (137). So the ability to use *concepts* is the ability first to group along likeness, then to distinguish along a common attribute, re-group and apply this category in a new situation; and it also means being able to consciously apply this structure of concept-forming itself. No wonder Vygotsky found this ability was only truly acquired in adolescence.

More important than the subdivisions is Vygotsky's description of the overall structure. He

speaks of the process as 'a movement of thought within the *pyramid of concepts*'(143).
Concepts are built out of, and on top of, underlying complexes. In complexes objects are united under a common family name, the concept then takes on another name.(145) So the naming words (nouns) will be grouped in the same kind of structure as the concepts.

The importance of such a leveled, pyramidal structure for language, even if it were only limited to the majority of nouns, might not be immediately apparent. Let me try to explain. Complexes are organized along direct visual characteristics, eg *red* blocks. So the name given to the complex, 'red' or 'brog' or anything else, will once it is learned refer directly to the visual characteristic. Concepts are organized on top of the complexes, according to one common attribute: e.g. red and small. They are thus built on at least two different classifications. But how will the name reflect that? It is as if the children in the experiment after discovering that *lag* designates 'tall' and 'large' are now asked to group all 'red lags' together and give this newly formed category a name. It might be *rag,* or anything else. As long as it is not the literal *redlag* the name will not show its own origins. The connections with underlying categories are severed by the new name.

A 'full embodiist' (my term) like George Lakoff claims language to be embodied because it 'makes direct use of the same brain structures used in perception and action'.[174] And so it does, at the ground level of basic categories. But two factors combine in obstructing this basic embodiment: first of all language does not restrict itself to ground level, but develops into a multilayered structure, with different concept levels organized as to degree of abstraction (still speaking only of nouns, not even of all the complexities of sentence formation). Secondly, all concepts get a name, to tell them apart. And as Saussure already remarked: *linguistic signs are abitrary*.[175] This I think is the essential and rather overlooked element in the loss of embodiment, or better: in the loss of direct contact between higher level and ground floor categories.

Saussure called this arbitrariness 'the organizing principle for the whole of linguistics'. He avoided the use of the word *symbol* for such an arbitrary sign, because real symbols (e.g. the image of the scales for 'justice') are nót entirely arbitrary, but retain a certain natural connection. Words, except the rare onomatopoeia, are really arbitrary, as Saussure shows by comparing languages. The same animal is called [böf], [oks] or [rund] on different sides of the border. While linguistic signs must be considered arbitrary in relation to their signification, they are not so on the invidividual level of use: they are social/cultural prescriptions within a community of language users. The word thus is both arbitrary and conventional.[176]

My suggestion is that within a hierarchy of concept levels the arbitrariness of the names is the decisive factor in losing embodiment. By its very arbitrariness the higher level word (voyage) does not show its own origins (a movement from a to b, involving means of transportation) - it is not, or hardly, transparent. Through learning the names for new encompassing concepts one moves higher up the pyramid of abstraction, but in the use of such a name its origins are osbcured.

Taking trees as an example, a child could heap them together on their appearance: 'tree'. This is a visual category. As is low growing greenery, termed 'bush'. Their common property is that both are green and are found in the forest. Grouping them together one could say 'green stuff' (as children will do) or adopt a new term: 'flora'. This is an abstraction which has to be learned through its elements. Schematically complexes are groupings made according to the combination of a visual Property 1 'green' and a Property 2 'tall': resulting in Tree. Or property 2a: 'short' resulting in Bush. Adding one more property ('standing in the forest') the direct descriptions will get lengthy (the long and short green things standing in the forest) and be replaced by a new short term - which bears no direct connection to its source anymore.

Such an abstraction may of course be learned and is in itself not problematic to understand. But the sheer amount of different properties encapsulated within the concept obstructs the direct physical expression. Maybe there is even an identifiable maximum of properties which will still get the body going. Taking the reverse route, a complex concept like 'democracy' could still be broken down in its original parts, provided you know ancient Greek. But what about 'structure', or 'category'?

We can picture the acquisition of new levels of abstraction as a movement upwards to a higher floor in a high-rise building. The use of transparent names would be like having a glass floor on every level, so one would always see where one came from, and establish a direct sensory connection with ground level. But the language tower has no glass floors, rather it has small stairways that cut off contact with underlying levels as soon as one has arrived at a new one. The mechanism functions somewhat like a sluice which permits traffic to go one way, blocking the way back. In this building one learns to use 'voyage' or 'coordinate', but when asked (by a child) what such a word actually means one suddenly finds oneself stranded at the x-th floor, looking for an exit to the staircase which is hidden somewhere.[177]

It is this linguistic mechanism that I hold responsible for the gradual cutting off of the basic connection with body. It would be interesting to test this hypothesis on the neuronal level; and to do an experiment investigating the 'playability' of words according to properties contained, as well as across different languages.

Thus an internal developmental view of language shows what mechanisms in language account for a gradual reduction of embodiment. We can also take an external view, looking at language from a broader, cultural perspective, to find an argument for the disembodying effect of language. Developmental psychologist Michael Tomasello claims that it is the very act of engaging with other minds in dialogue via symbols and discourse which transforms the cognitive skills of one- to two year old children. Before language these are not very different from higher primates, through language they grow into completely different 'extremely complex and sophisticated cognitive skills'.[178] Language is thus essential for human thinking, and it in turn is essentially shaped by social and cultural influences. What exactly is the effect of these environmental influences mediated through language? Tomasello notes in very small infants a 'gradual distancing (..) from concrete action'(p179), expressed in forms of behavior that gradually come to encompass not just action, but strategies and plans that may or may not be put into action. He subscribes the view that the process of 'representational redescription' is the very ability which distinguishes human cognition from other forms: 'the way in which we construct ever more abstract (..) cognitive skills'.[179] And he points to the process of perspective-taking and internalization, which is stimulated in small children by discourse as well as by cultural influences in general.(p198) Piaget in this context speaks of a series of 'de-centralizations', and likwise finds that the 'cognitive progress contains a systematic process of de-centralizing (of the child - JR), which is a necessary condition for objectivity'.[180]

Although this may be just circumstantial evidence, it does point in the same direction. What it amounts to is that human cognition through language and culture is changed from a direct first person perspective into a new mixed perspective, with 3d person dominating. The movement is away from direct action to more contemplative stances, and literally away from one's bodily self to the active understanding of (and compassion with) other minds. One is hardly surprised that this process, in words and thoughts, of moving towards intersubjectivity would entail a lessening of the bodily connection. In fact to be able to live together in a social community one feels a person has to relinquish the phase of primal embodiment. The essential role of language in the development of a 3d person, objective perspective, already suggested in the last chapter, here finds corroboration from a linguistic perspective.

In conclusion we see that within philosophy of language the view of embodiment has gained popularity – understandably after the decennia of arid analytical philosophy, when Body did not seem to exist at all. But the resulting view of 'complete embodiment' rings false because it is monistic, built on an exclusively somatical basis. It does not take into account the actual (somatical as well as non-somatical) process of education and socialization human beings undergo, especially in the first ten years. Other linguistic views stick more closely to the reality of a mind shaped in a long developmental process, under steady social and cultural influences. Such a practical view agrees better with our empirical findings, because it shows a possible mechanism of language that can account for gradual reduction of embodiment. But before completely accepting the hypothesis of gradual disembodiment, we will check this position against the opinion of philosophers of embodiment theory.

d. Philosopher's views; the hypothesis tested.

Did the authors of our theories of embodied cognition notice the disembodying effect language has on cognition? Or do they account for language's special role in another way?

As we noted, Varela et al. in TEM do not say much about human language as such, apart from describing it as a form of structural, reciprocal coupling between humans.[181] But the book does contain a treatment of the neural operations in the brain underlying language; when comparing the symbolist and emergent/connectionist paradigms the authors come to a surprising conclusion. Language in this context is seen as an operation with symbols, quite in agreement with the first paradigm. In the second paradigm symbols 'disappear as meaningful items, being replaced by numerical operations', that take place on the more fine-grained level of neuronal networks.(p99). But this 'sub-symbolic system', as it is termed, allows in fact for a cooperation of paradigms: the subsymbolic level would use cognitive descriptions, that then team up to form symbols at a higher level. Varela et al. suggest that subsymbolic emergence and symbolic computation can be seen as complementary approaches, bottom-up and top-down respectively, to be joined pragmatically or used at different stages.

In this *inclusive view* the need for a symbolic level is acknowledged, but symbols are taken as macrolevel descriptions, not as the atoms of the operation. Human language could still be considered as a purely symbolist operation, as cognitivists Fodor and Pylyshyn have argued. On the other hand Varela insists the domain of cognition should not be limited to the macrolevel and has to include lower level processes. (Such as we have seen provided by Damasio, in 3c/ii) With the symbolic level allowed entrance, it seems in fact also the non-embodiment of cognition is allowed to exist within a theory of basic embodiment, be it as a level of description of a certain part of cognitive phenomena. Varela's conclusion is that an inclusive or *mixed mode* seems 'a natural strategy to pursue'(p103). The proposal of TEM is to view mind as a society, non homogenous, including both connectionist and symbolic processing in a form of co-existence.[182] At the time the authors could only give some examples from biology before noting that 'the conceptual status of such a synthesis is far from clear and concrete examples are still lacking'(p100). But since publication of TEM much research has been done, confirming exactly such a synthesis at the neural level.[183]

The inclusive stance is in line with the results of this thesis, which I hope now provides such a requested concrete example from higher cognition. What I think is missed by Varela are the consequences of the layered structure of language for embodiment. Nor is this noticed in Varela & Thompson 2002, where three dimensions of embodiment are distinguished: *organismic regulation*, *sensorimotor coupling* and *intersubjective interaction*.[184] The first category is the place of the emotions, the third involves linguistic communication. A difference as to their dimension of embodiment is noted, but what this might entail is not elaborated.

Schatzki pays more attention to language.[185] Consistent with Wittgenstein's writings, language is foremost described as playing a central role in the social constitution of mind/action. That a person 'becomes 'one of us' means first of all that he or she reacts verbally as we do', viz. that the person masters the technique of language (p65). Schatzki's emphasis is more on *speech acts*, than on its written form, because speech is the bodily expressed form, which is central to the concept of mind/action. Language belongs to the bodily *sayings*, which together with the bodily *doings* make up the possibilities for conditions of life to find expression. Language use is seen as a form of bodily performance. As a practice, language is of course socially constituted. but in the Wittgensteinian view it is not so much guided by ideal rules as 'by past bodily sayings' (p51). All this makes language appear as being closely tied to Body and embodiment. Since the focus of Schatzki's book is on the social constitution of mind/body/action as a uniform theory, it is not surprising that the idea of a gradual obstruction of embodiment of cognition, or of an essential role for language in the process, are not thematized here. Still we can glean from the book some small approximations of the problem.

Schatzki does not speak of 'cognition' but of the 'cognitive conditions of life'. As we saw in the first chapter, all life conditions are expressed by the body, but in comparison with other categories cognitive and intellectual conditions differ by their 'lacking characteristic expression'.(p43/44) Cognition has no specific bodily expression, and the attribution of such conditions requires far more specific social and cultural knowledge than the attribution of an emotional mental condition. (This means that judging from another person's expression it is far easier to say that he is in pain, than what he might think- p78) Here Schatzki notes the difference between emotion and cognition, and possibly the latter's lack of embodiment - but he makes no mention of a special role for language.

In the fourth chapter on Social Practices forms of understanding are investigated. A distinction is noted between 'propositional (nonparticipatory) understanding', which is an inferior stand-in for 'non-propositional conceptual understanding'. The latter means living in the practice, participating in it, in other words: understanding through doing and experiencing. But *this conceptual understanding is not, however, fully formulable in words.*(p93) On the other hand the propositional form, leaning on words, is non-participatory, it is a way of indirect understanding via the intermediary of signs. So language does make a difference: the difference between 'knowing about' and experiencing. Also it is found to play a 'critical role in the articulation of intelligibility'(p126). Still these issues are unrelated to the theme of gradual dis-embodiment which we are trying to elucidate.

Let me suggest a possible link: Schatzki describes understanding as being expressed in 'sayings and doings', verbal and non-verbal activities.(p111) One might interpret that propositional understanding gradually becomes more a matter of saying than doing; e.g. the doings of words like 'democracy' or 'dairy products' seem to be non existent. Interpreted in this way the Schatzki theory could incorporate the disembodying effect of language - but no hints for such an interpretation are given in the text.

As a third voice I consult philosopher Andy Clark, to include the perspective of neuroscience and neurophilosophy. In a series of recent articles he studies the relation of language with embodiment of cognition and tries to find a synthesis for contradictory findings.

Clark 98 *Embodiment and the philosophy of mind*, clearly sketches the main conflict in the field.[186] The old 'model' of cognition, built around symbolic representation and computations, is an *isolationist* paradigm, because it cuts off the computating mind from the world, as well as ignoring the body. The main argument against isolationism was that agent and environment

often can not be separated in this way, because they are mutually causally influencing each other, as if they were partners in a dance (p12). So recent cognitive science has come up with an opposite paradigm, of embodiment and non-representation: dubbed *post-Cartesianism* and favoring a holistic view on the relations of mind, body and world. But Clark is not completely convinced. He finds the embodiment paradigm to be leaning too much on situations where environmental factors are present, and which are not 'representation-hungry scenarios' in the first place – situations of online cognition. Post-Cartesianism is promoting a shift in research attention from cogitation to active engagement, from thought to action, or in Clarks words: from 'cognitive to coping'. But they are poor examples of what we see as typical *cognitive* phenomena. Not enough attention is given to the 'offline variant' of cognition, (he uses the term already, before Wilson) on situations of 'environmentally de-coupled reason'.(p18-19)

Clark now proposes an intermediate position dubbed *minimal Cartesianism*, based on the crucial distinction between 'action-oriented and action-neutral representations' (p11). While the former kind builds a behavioral response into the representation itself, the latter does not as yet specify such a response. The claim is that cognition involves representations of the latter sort, 'whose systemic or functional role is to stand in for specific features or states of affairs'.(p15) In other words, Clark postulates the existence of neuronal fields that can function as internal stand-ins for real actions; to function in online situations, but also as a rehearsal tool, to be used in future situations and to 'act as an inner surrogate in the absence of target environment' (p17). And the presence of such action-neutral representations coincides, according to Clark, with 'the possession of a *public language*'.(p11) The internal stand-ins are (representations of) words. The special role of language in cognition is thus established on the neuronal level. Language is characterized as the 'one action neutral symbolic code we know'[187] as well as an 'externalizable and interpersonally shareable symbol system'. So minimal Cartesianism sticks to a form of symbolic representation: the action-neutral representations are both body based and coincide with linguistic forms.

Clark 98a, *Magic Words,* elaborates the idea of language as being a basically external artefact, which provides an outside 'scaffolding' of the individual mind.[188] This leads to the postulation of *Wideware*, Clarks term for the extension of the cognitive process into the world, also formulated as the Extended Mind.[189] Language now is seen as a computational tool reshaping computational space in our brains, 'complementing, rather than transfiguring, the basic processing profile we share with other animals'.(p6) Here Clark notes the special position of abstract concepts - like 'charity', or 'black hole'. They are 'being pitched too far from perceptual facts to be learnable without exposure to linguistically formulated theories'.(p7) He believes that they can only be learned via 'linguistic glosses'. This would mean a category of purely symbolic representations, with the consequence of the existence of symbolic, non-embodied cognition. Vygotsky's early research is mentioned, but it is not clear whether what Clark has in mind is similar to a layered build-up of language as sketched in section c. What transpires is that minimal Cartesianism allows the existence of non- or less-embodied cognition, due to language. And the reason for graduality of the process is hinted at.

Clark thus holds a bridging position, combining the traditionally antagonistic paradigms, quite like Varela's inclusive stance. Or, as he concludes poignantly: 'Nature, as ever, contrives to have it both ways and all at once'.[190] In Clark 2001 the intermediary position is tied even closer to the neural level, finding a parallel with the dual vison systems hypothesis.[191] The suggestion here is that language and consciousness are essentially connected with the ventral stream of perception, thus visual experience would be linked not directly to action but to 'the processes of thought and reasoning which may inform subsequent actions' (p30). The big divide then is with the dorsal stream, responsible for the online and unconscious activity of 'visuomotor action'. He finds that: 'Consciousness, memory and reason thus emerge as a functionally unified grouping, while

the online execution of fine motor activity calls on a distinct (and phylogenetically more ancient) resource' (p38)

So considering cognition from the neuronal perspective, Clark gradually comes to a dualistic vision. The brain contains two systems linking perception to action, which in turn have a link to language. One is online, direct and embodied, as well as old on the evolutionary scale. The other system goes by ways of memory, reason and thus language, and is phylogenetically more recent. This brings us almost full circle to the folk wisdom that the human acquisition of language is what distinguishes us from other animals. And that language involves disembodiment.

<p align="center">***</p>

Not so much one of the EC theories as well as their combination is needed to account for our findings. We found a basic embodiment of cognition-as-experience,(Varela) as well as its replacement by cognition-as-knowledge, under the influence of socialization and language (Schatzki). To explain the specific disembodying influence of language, operating in proportion to degrees of abstraction, we need a linguistic Vygotskian theory. (Also hinted at by Clark). Not one of these theories can explain the multiple mechanisms we found operative in embodiment of cognition. That only a combination of theories can do this may be due to the dual main forces (somatic and social) that shape human cognition.

What the philosopher's perspectives affirm is the possibility of a non-unified view of human cognition. Embodiment across the board can be exchanged for a two sided model, which possibly is mirrored on the neuronal level. In such a model language is the crucial dividing factor, by enabling an offline variant of cognition - without coinciding exclusively with it, nor with the online variant (pace Clark).

But of course there is no consensus here. According to the Internet Encyclopedia current researchers of EC, are divided in two groups: Purists and Compatibilists.[192] The latter view, held by Clark, refuses an all or nothing choice between embodiment and cognitivism. The former still takes it that embodiment does hold across the board; the wait is just for more refined research tools which will show it to be thus. After the comparison with acting exercises it will come as no surprise I consider myself a compatibilist.

e. Mind and Cognition; two new models.

We can now sum up our findings about the constitution of cognition, closely followed by that of Mind, which still is our name for the 'carrier and executer of cognition'.

Ontogenetically, following the development of an infant into adulthood, cognition starts as experience: its basis are brain mappings of bodystates become conscious, the consciousness of a body interacting with its environment. This cognition is fully embodied, and subjective 1st person in the pre-linguistic sense. The executing mind we have called E(xperience)Mind.

The acquisition of language is what transforms cognition into a 3d person, socialized process, covering feeling and thinking, and experience as well, emphasizing knowledge. Earlier we termed the accompanying mind S(ocialized)Mind, but from a certain stage onward we might as well call it L(anguage)Mind. I will stick to the former name. This cognition is at bottom embodied, but language has a disembodying effect. The decisive linguistic mechanism is the process of abstraction of concepts and words: this proceeds in steps, resulting in distinct category levels forming a layered structure. The higher one gets in this structure the less embodiment one encounters, until at a certain level it has disappeared altogether.[193] So the basic embodiment of cognition is counteracted by its (social) embeddedness.

All of this can be put into an ontogenetic model, sketching the build-up of mind, as it develops in an individual. This model basically is a free and rough elaboration of Damasio's tree model,[194] expanding it for mind and language. Its purpose is to show graphically how Mind

arises out of the meeting of Body and World plus Language - and how its degree of embodiment follows from this basic build-up.

The model should be read from bottom to top. Starting in the second column it follows roughly the cognitive development of a small child; beginning with a quite general summing up of bodily functions, up to the level where the neural mapping of body states leads to the unconscious brain state of 'emotions'. At that point 'mental states' come into existence, and thus Mind. The third column shows its development: unconscious, automatic functioning changes into consciousness, which is the reigning state of mind from then on upwards.

Then, moving along in time, language appears as a tool from the outside world. (Here represented as internalized in the tree structure). It is responsible for the birth of thoughts, reason and the complex of what we call SMind. Linguistic objectifying SMind is built on and over experiencing EMind – encompassing it as a linguistic item, but functioning in a basically different mode. In column 4 the position of the two Minds is represented. The last column sketches the degree of embodiment, when moving to higher levels of cognition.

'Feelings' is the name for those inner states that involve brain mappings of bodily states. They are embodied, and can be expressed in language. 'Thoughts' is a generalization over inner states, which are always expressed in language and may involve embodiment, but do so less in proportion to their degree of abstraction. Cognition in turn comprises both categories.

Ontogenetic model of Mind arising out of Body and World, and its degree of embodiment.
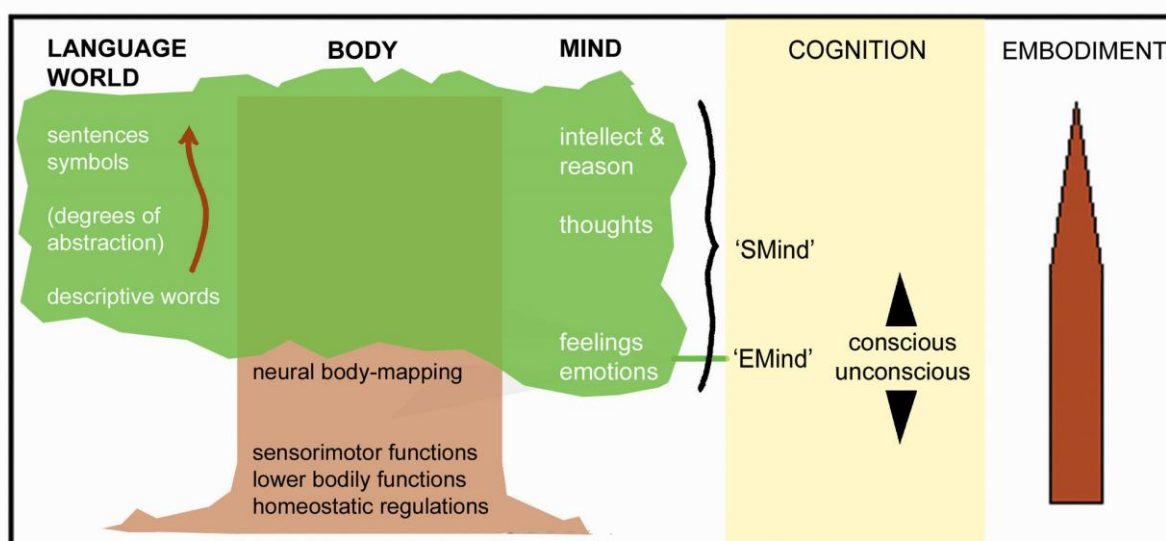
What the model can not easily show is that Mind does not arise out of Body as the higher floors of a skyscraper, going up in a straight line. It really is a grouping of two different structures on top of each other. We might picture this three dimensionally as a tree, expanding sideways. Or as a high-rise in the form of a funnel- first going up vertically, then at the appearance of language and SMind, suddenly expanding sideways as well as upwards. (In such an architectural model Body might be pictured by the elevatorshafts going all the way up in the centre of the building, hidden from the outside by the surrounding building).

Another aspect that may be added to the model is that the movement is not just upwards towards higher, conscious cognition. On the contrary: skills, once learned, tend to get automatic and unconscious – e.g. reading, driving a car. They make a downward motion, as if they were descending in the building to the level of experience, where mind and body function integratedly.

What our model does show is how large the field of application is of our household
term Mind. It starts in the lower structure and covers all of the upper part. It thus can clarify
some of the confusion surrounding the daily and philosophical use of the word 'mind': the
different modalities and the overlap of the two minds account for much of this confusion.
Clearly a part of this Mind is always embodied, (EMind) meaning in fact that it is embedded in
the body and not to be separated from it. For SMind this is less clear cut. As we have shown it is
partly embodied. By the power of lingual abstractions the natural tie with body gets weakened
or even cut. (In the architectural model we might use coloring of the exterior to show where
Mind sets in. If we use a contrasting color for the elevators and show the structure in a
transparent projection, the distancing of the two colors illustrates the development of the
growing apart of Body and Mind.)

**

In the preceding chapter also a provisional model was sketched of the basic epistemological
triangle, picturing the relations of Body, Mind and World, as well as locating a 'self' – with
regard to pre-linguistic experiencing mind. I will repeat it, calling it E-model.
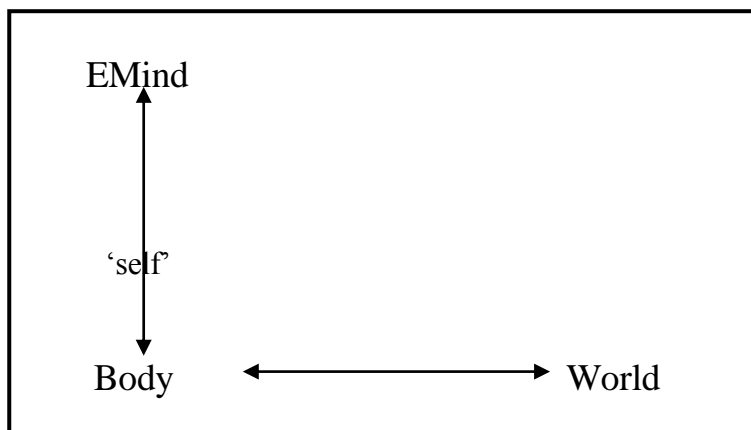
How has this changed with the appearance of language and SMind? And what are the
consequences for the position of Self?
I suggest the following picture, and call it S(ocialization)Model.
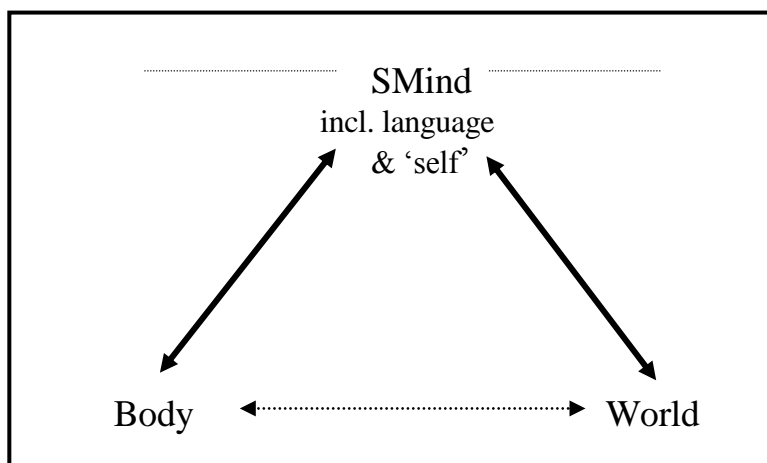
The position of Mind has changed drastically. The nature of SMind is social and linguistic, as
was argued by Schatzki. Because SMind extends far into the world, as Clark argues, it is

schematically pictured in a halfway position. One might say SMind is the representative of World in our brains, bringing along words, thoughts and all the memes. One such meme is Self.

Another noticeable difference between models is the way information and interaction flows. In Emodel all goes via Body, it is the interface between a primitive self and World. In SModel different pathways have opened up, but SMind has taken centerstage, guiding and steering a Body relegated to the second row.

For a resulting overall picture of both modalities of Mind working together we might mentally superimpose the SModel transparently on EModel. It would show a dynamical picture of Mind, travelling to and fro between Body and World, extending itself into the world through wideware as well as time and again regaining its own bodily center. This superimposed picture also can show how cognitively acquired skills (Smind) become part of experience (Emind): by first becoming part of Body.

The question where a resulting Self is to be located in such a superimposed triangle seems hard to answer unequivocally. It seems to lie partly in SMind, as a social idea in our heads, partly in its original body location. What it does show is that self as an idea can be separated from the experiential side of self. My suggestion is that in development the social idea of Self clings to the pre-linguistic bodily feeling of self, as sketched in EModel. [195]

The two models clarify the workings of Stanislavski's system. What the System does is provide a technique for (temporarily) replacing SModel with EModel. What is rediscovered in the Stanislavski exercises is more than Varela's embodied cognition or 'naturalness': it is the level of personal embodiment and experience. The move between models can be characterized as from 3d to 1st person perspective, or from objective to subjective, but we have to keep in mind that experience really takes place at another level than that of making linguistic distinctions; it is pre- or para-linguistic. The move is from language to body. Basically it means cutting the tie connecting SMind with World and letting the interaction flow through body and bodily self. Which is another way of defining what experience really consists in. What the System does is show a road from generalized *knowing* to personal *experiencing* - what Schatzki calls 'being a body'. The main difference in the above models is that between a knowing mind and an experiencing mind, and the main distinction is the place of the body.[196]

The System exercises show that we can regain this level of direct experiencing. This leads to the conclusion that if we want to locate Self as an idea, it lies in Mind; but if we want to find Self as experience, the primary sense of self, it is to be found in Body as shown by the first model. More precisely it is found at the level of Feelings in Damasio's model, the place where unconscious emotions, or neural body mappings, become conscious. 'Self' *is* nothing but a marker for this type of experience, characterized by a certain permanence. It is not a metaphysical entity, just a word to describe a distinctive and persistent step in the workings of our brain. (In our threedimensional funnel-model, we could locate this experiential Self as a room next to the elevatorshaft, just below the point where the horizontal expansion begins.)

Of course one must be careful in toying with reified generalities, but the remarkable conclusion is that generally speaking our primary 'self' is rather to be found in Body than in the extended place we call Mind. The personal centre resides in the body, quite contrary to what we think, used as we are to psychologistic models of human functioning. Instead of Descartes' dictum 'I think, therefore I am' we should say: 'I body, therefore I am, therefore I think'. Or rather in two steps: '*I body, I am*' and '*I use language, therefore I think*' (glossing over the contradictory fact that the former expression is in fact a pre-linguistic awareness and so can not be put into words.)

f. Consequences.

Through the sketching of these models the second question is answered. Acting practice has helped to define the limits of embodied cognition, as well as the limiting mechanisms. In conclusion we find that we are embodied as well as socialized creatures, and that the socialization has the effect of diminishing the embodiment. Where Den Boer writes: 'all human cognition is rooted in biology, but at the same time lived in a cultural tradition'[197], we find the lived, cultural factor has a disembodying effect on cognition through language. Still unanswered is the question if we can call this higher, abstract cognition 'embodied': I think we should not. To call the cognition expressed in a sentence as "democracy is a liberal state form" embodied is stretching terms too far, even when honoring Johnson's suggestion that reason itself is structured along image schemes of a bodily nature.[198] Cognition is not uniformly embodied across the board and in naming we had better make a division, calling our understanding of such a sentence 'disembodied'.

I will briefly discuss some consequences this investigation might have for philosophy.

They are twofold. As to content the most important result is that Mind should not be regarded as one, nor as a thing. The resulting models could prove helpful in clarifying some ongoing debates in the philosophy of mind, such as the discussion of *qualia*, which really is the SMind name for an EMind phenomenon. The other consequence concerns method: by my modeling of Mind I hope to have shown that this can be done without recourse to metaphysics, starting from practice rather than from theory.

Until now I have avoided the traditional discussion of the 'Body-Mind problem'. Throughout centuries this has resulted in a multitude of theories, mostly concerned with the problem of the *substance* of mind, promoting some form of dualism or monism. In recent years the theories are mostly monist, materialist and reductionist in character.[199] I have refrained from engaging in this theoretical debate because I think the theories start from the wrong end, from wrong presuppositions. Speaking about mind they take Mind as a reified entity, some 'one thing' about which some one theory must be produced. Mind then is to be eliminated to physical properties, or 'emergent and non-reducible', or something else again.

What I think to have shown here, starting from the end of praxis, is that Mind itself can not be regarded as one entity, but rather should be conceived as a compound of modalities. Popularly: Mind is a bodily control center as well as a worldly, language-driven interface of body and world. It is the first structure, EMind, that could be seen in the perspective of reductive theories, where 'mental states' are caused by certain brain states. The situation is quite different for Smind, which through language acquisition and socialization takes dominance over EMind. As I have shown SMind is a multi-leveled structure, built on World as much as on Body. Though anchored in the brain, it seems unlikely that SMind states may be (eliminatively) reduced to individual neural states - the brain accounting for all the infinite possibilities of thoughts by distinct neural substrates. For the workings of SMind another theory is called for, possibly gradual and dualistic (– see Clark). Mind is a non-homogenous structure, requiring not a unified theory but a plurality of approaches.

As regards the substance problem: a non-material substance can not influence the material substance without breaking the universal laws of thermodynamics.[200] But in fact we do not need two substances. Higher cognition still is grounded in neuronal activity in the brain. It is emergent and non-reducible, but bodily anchored. This cognition is a neural activity which is just not connected to motor areas, as if arising in a circuit which can be closed off. It can also be re-connected, as we have seen, and causally influence other brain circuitry. The human brain has created the possibility for a not directly embodied circuit, creating 'offline cognition' - evolutionary this may have been the start of what we call intelligence, the possibility to think

decoupled from action. As long as SMind can find its way back into the Body I think
there is no practical 'Mind-Body problem' to speak off, but just 'Mind-Body possibilities'.

The important consequences of these models are not so much a matter of philosophy as of life.
What I hope they show is that Body and Mind on the individual level are intricately connected.
And moreover, that some places of connection can be located quite accurately; one such
example being mental imagery. This means that there are identifiable roads in both directions,
that can be taken consciously when the need arises. An example of this need may be the area of
mental illness; with a possible healing role for bodily activity in a therapeutic programme.
Conversely mental activity, and language, may be used creatively to influence bodily processes.
An example of the need of connecting Mind to Body arises in theoretical investigation itself; if
the model is right theory gets disembodied automatically in the process of abstraction. What is
needed is to reconnect it to practice, by giving bodily, i.e. sensory, examples.[201] A special role
may be played by the interface of Mental Imagery, which deserves more attention from
philosophers. If Kosslyn's remark is true, that visualizing an object has largely the same bodily
effects as actually seeing it, this may have consequences in more than just the field of
entertainment. It could find applications in all kinds of therapeutic as well as learning programs.
What the models also do is remind us of the need for a balance between Body and Mind and
suggest adjustments in situations where this balance has been lost. There seems to be a
functional relation between the System and other existing practices - like meditation or intense
bodymovement/sport, drugtaking or Japanese flower arranging - which all have the purpose of
leading back to EMind experience. The common aim can be seen as an effort to regain direct
experience, shaking of SMind influence. The model shows that this is not a nonsensical or
ephemeric endeavour.
On the other hand it must be stressed that this model points out an equally interesting
phenomenon at the opposite end of cognition: the top level of linguistic cognition is shown to be
disembodied. This means that Mind ultimately can lift itself out of its bodily origins into a realm
that might be termed non-physical. This then is the domain of words and concepts like 'charity',
'democracy', 'black holes' as well as 'category' - in fact the domain of much talk and even more
writing, which feels quite like home. An interesting question is how we should really call this
cognition: disembodied, non-embodied – or rather *meta-embodied*. Whatever the name it can be
very rewarding to climb up the funnel-building to this region.
So far the implicit bias in this thesis may have been in favor of the 'way down', away from
abstraction back into Body. But in fact I think the other direction, moving up the ladder of
abstraction is as important for human beings and as enjoyable, provided the way down is kept in
view. The Stanislavski road leading to the 'lost world' of body and direct experience suggests a
model with two ontological poles and one road in between - somewhat parallel to the ontology
as sketched by Heidegger, or the associated practices listed above: putting an 'authentic',
experiencing self opposite a self entrenched by Big social Brother. In contrast to this dualistic
model I suggest the possibility of a second road leading away from the omnipresence of
socialization, in line with Schatzki's concept of 'novelty'[202]. This road would lead up into a
third area, of abstraction and non-embodied concepts, on the way shaking off the social
influence by climbing over it. What is to be discovered in the disembodied region is an original
form of cognition. In fact this may be what any exploring philosopher, or scientist is doing. But
such a manipulation of abstractions also stands at the basis of (verbal) humor and comedy. It can
be combined with experience and lie at the basis of artistic expressions.
The partial non-embodiment of Mind is not to be seen as necessarily a bad thing. It can easily
turn into the danger of high-brow use of abstraction, but it provides at the same time a great
opportunity for human beings to transcend their own limits and discover something new.

Conclusions & Recommendations.

This thesis concerns itself with the relations of body and cognition. In an empirical investigation two philosophical theories about embodiment of cognition were compared to the System, Stanislavski's acting practice, based on exercises connecting body and mind.
The first research question was:
Can the System serve as an illustration of the theory of Embodied Cognition?
The answer is Yes. The illustration of theory by practice yields the following results:
A clear connection is found to exist between cognition and body. Offline cognition (the sort of cognition with no direct link to action) can be led back to bodily action via mental imagery, forming a causally sufficient connection. This connection is conditional on the possibility of a 'personal' mental image (Ip), meaning a particular case of a singular example. Cognition at the level of feelings and experience is thus found to be directly embodied.
The confrontation of empirical findings and theory shows an agreement, as well as a limitation. The connected follow-up question is:
If so, can the acting practice also serve to show limits of the theory?
Again the answer is affirmative.
The limits are shown to be connected to the opposition of 'personal vs. general'.
Embodiment of cognition is found to be limited by a twofold process of generalization. First, ontogenetically, the private and fully embodied cognition of experience is generalized into public cognition, of knowledge. Secondly, within knowledge the process of abstraction has again a disembodying influence.
Both generalizations are directly related to language. Language itself consists of words which are already generalizations. Within language a further diminishing of embodiment takes place in proportion to the level of abstraction; a process due to the underlying linguistic mechanism of a layered build-up and the arbitrariness of linguistic signs.
Language being the main tool in the socialization process, primal biological embodiment is in fact obstructed by its social embeddedness. Socialization diminishes the embodiment.
As regards the embodiment theories under scrutiny, both do apply, but partly. Varela's Embodied cognition emphasizes the basic biological embodiment; the theory of 'social embeddedness' of Schatzki/Wittgenstein puts emphasis on the socialization of embodiment. Neither theory accounts for all of cognition, or for the gradual disembodiment of cognition taking place. To give a full account theories have to be combined and complemented by a hypothesis of dis-embodiment through language.
In a more epistemological vein the research questions were re-formulated as follows: *Can the System show that cognition is embodied? And that áll cognition is necessarily embodied?*
The answer is that System/acting exercises can show that a part of cognition is embodied, but not all of it, and that higher cognition gets disembodied.

The findings about cognition can be extrapolated to Mind, as the executer of cognition.
In the course of the investigation Mind is found to consist of two modalities:
An experiencing mind, fully embodied and closely tied to the body; the carrier of feelings in the pre-linguistic sense – called EMind.
A worldly, socialized mind of feelings, thoughts, reason and higher cognition, largely developed as a result of language acquisition – SMind.
In the ontogenetical development of humans and through the process of education SMind gains dominance over the experiencing modality of EMind. The latter can be regained by a conscious psychophysical procedure, as shown in the System exercises used. The difference between the two forms of Mind can be formulated along the lines of parallel oppositions:

EMind - SMind
1st person - 3rd person perspective
experience - knowledge
being a body – having a body (Schatzki)
pre-or paralinguistic - linguistic
personal - general (mental imagery)
completely embodied - less directly embodied (cognition)

Depending on its modality Mind takes a different position in the basic epistemological triangle showing the relations of Mind, Body and World. In the mode of experience, EMind is subservient to a Body taking precedence in its meeting with World. In the common linguistic mode SMind takes centerstage as the central interface between Body and World, relegating Body to the back seat.

The location of what we call 'self' differs according to the modality of Mind. The primary feeling of 'self' is found to be more closely connected to Body than to Mind, contrary to Descartes' dictum and our habitual contemporary view.

*

Some further research could confirm and expand these results.
- First, an experiment with regard to the specific functioning of 'autobiographic' mental imagery as the neural interface between Mind and Body, as treated of in chapter 3. The question to be researched then is whether significant differences can be found between different kinds of mental images as to the activation of (pre-)motor areas. Research done by the Italian neuropsychological group of Gardini, Cornoldi et al. already confirmed that the different forms of mental imagery in generation use different neural substrates and that the significant split follows the distinction between general vs. specific & autobiographical ('personal'). What still needs to be researched is whether in case of the latter, autobiographical, category a significant activation can be found of (pre-)motor areas and thus a connection with Body can be established.

Such an experiment might be done along the lines of their current fMRI research; presenting the test person with a series of nouns and asking him/her to spontaneously form mental images, afterwards to be identified as belonging to general, specific and autobiographic categories, as well as establishing a baseline condition fo comparison.[203] For this specific question the procedure could also be altered and made conscious as well as steered from outside: working on one noun at the time, going in steps from general to specific to autobiographic. This would closely follow the sequence of imagery required in System exercises; the generation process could be helped by an active giving of directions, just as in theatre practice. Still better would such an experiment be when it is technically possible to perform it without complete immobilization of test persons.

As for the results: a significant neural connection tying autobiographic images to (pre-)motor areas, in contrast to general images, would be a somatic proof not just for the existence of two types of acting, amateur and Stanislavskian, but in fact for two basically different forms of cognition (and Mind). Note that it has to be kept in mind that in the System the Ip is always accompanied by the concept of Action, which can be seen as a willful mental activation, following from and coming on top of the Ip.

- Second, a thorough experiment investigating the 'playability' of general words in connection with increasing abstraction, which was the subject of chapter 4. This could be done in two parts, possibly with experienced actors as well as a control group of non-actors. The first part would

be a live test of the playability, the possibility of a bodily illustration, of a list of nouns.

The nouns have to be of different levels of abstraction, a classification made according to the number of properties contained in each noun. They can be presented in random order to the actor. This would proceed quite like the description given in chapter 4 section b.

The second part would involve fMRI and largely follow the procedure of the above mentioned experiment of Gardini et al. What is investigated is the existence of significant variation in neural substrates of mental imagery accompanying nouns of different categories of abstraction, giving special attention to the activation of (pre-)motor areas.

Results will show if the linguistic mechanism of abstraction really can be held responsible for the gradual cutting off of a basic connection with body.

- Thirdly, on a broader scale, it would be recommendable to perform these experiments across different languages. When the parallellism between autobiographical images and action, and between the mechanisms of abstraction and disembodiment can be shown to exist across languages this would suggest universality in the build-up of cognition.

A quite different recommendation is to make (philosophical) theory transparent, by always providing sensory examples or analogues. This really would mean a re-embodying of concepts which have become disembodied in the process of theorizing. Reversely philosophical theory thus will profit from starting out with practical examples. It will make the theory more *embodied.* This not just makes for easier reading and brings the theory closer. But such a strategem, by actively incorporating the bodily and sensory level, actually forms a bridge between the domains of knowledge and experience. Such bridges are of great importance when we want to make Mind transparent and connect it clearly to Body.

APPENDIX A.
C.V. Jurriën Rood

Jurriën Rood graduated in '76 from the Dutch Film Academy of Amsterdam, as a writer/director. Worked as assistant-director and co-writer on various feature films as well as tv-documentaries, then started out on his own, doing mainly drama productions. Wrote and directed a couple of shorter features, varied tv-work and one feature-length film: THE ORION NEBULA (1987). Wrote film criticism for the magazine Skoop and was on the editorial staff. As a free-lance writer he still publishes on film. At the start of the 80's Rood moved into the theatre. He founded his satirical group '1983', functioning as writer and actor – the group won the Leids Cabaretfestival of 1983 and made four shows in four years. Since then he has been directing around 30 productions, ranging from musical theatre, to repertory, to children's plays. He wrote and directed some plays of his own and had a long standing working relationship as writer-director with the duo 'Real Men'. Most of his productions are based on original texts, all of his work can be seen as variations on the genre of the tragic-comedy.

FILM
Writer and Director:
ROUND THE TABLE (74), feature short. (Dutch Film Academy) KASPER AND HUGO(76), feature short. (Dutch Film Academy) THAT 30th APRIL FEELING (80), docudrama 50 min.
THE ROAD TO BRESSON (84), documentary 55 min. IETS IN DE REGEN (84), theatre-adaptation 55 min. VERSCHNITT (85), theatre adaptation 55 min. THE ORION NEBULA (87), feauture film 80 min.
CELLULOID BLUES (98), tv-film 51 min.
Co-Author of:
TWICE A WOMAN (79), dir: George Sluizer THE SIGN OF THE BEAST (80) dir: Pieter Verhoeff
THE ELEVATOR (83) dir: Dick Maas
   Direction of documentary items for HET KLOKHUIS, drama epsiodes of children's programme KIEKEBOE, comedy-drama series PRIL GELUK, items of mock-news WERELDBERICHTEN. Recently: editor and collaborator on the docu project VIDEOLETTERS.

THEATRE.
Director of:
SOUTERRAIN (83) theatregroup Carrousel VERSCHNITT (85) Loes Luca & Ria Marks
NERO (86) duo 'Echte Mannen' (Real Men)   PARKING (87) Orkater FEEST (88) Mrozek short; Frascati Amsterdam EDUCATING RITA (89) Dutch theatreschool A'dam ADDIO, ADDIO, ADIEU (89) children's musical theatre 'Balloen' HENDRIK VIII (91) duo 'Echte Mannen' NUMERO OTTO (92) Balloen children's theatre FOOLS IN LOVE (94) songs by Joe Jackson musical theatre, theaterschool Amsterdam DE RODE KAMER (97) duo 'Echte Mannen' BEDSCENES (99) Parade summertheatre. JUFFROUW KACHEL (99) children's theatre; De Verschijning WILLY's WILDE WERELD (99) woman's solo; W. vd Griendt THE 20th CENTURY IN DUO'S (99), duo 'Echte Mannen' BEDSCENES TWEE (00) Schouwburg Rotterdam. NACHT (00), Pinter short; Parade HET ROOKKWARTIER (01) duo 'Echte Mannen LOVE 4 SALE, popsongs (01), theaterschool Amsterdam   FOLK (02) duo 'Echte Mannen'
Writer, director and actor of cabaret:
SOMMIGE ADVIEZEN (83), group '1983' DE MAN VAN DRAAD (84), group '1983' DILSWATER (85), group '1983' IN ONZE TIJD (90), group '1990 first 1983'
Writer and director of plays:
HET KIND (93), Theater Bellevue Amsterdam EEN SALON IN DE LUCHT (94), short play, Bellevue. TUPPERGRRLS (00), short play; Parade summertheatre WOMEN SEIZE THE REINS (01) Aristofanes adaptation, ARTI Amsterdam   FOLK (02), duo Echte Mannen LEARNED WOMEN (04) Molière adaptation, ZVT Zaandam.
Recenlty:
Txt of THE SOUTHPOLE, for the WinterParade; WAY UPSTREAM, adaptation of Ayckbourn for ZVT. Directorial advisor of cabaretgroups ao Rooyackers, Kamps & Kamps.

APPENDIX B.

Sense Memory. (Excerpt from Easty: *On Method Acting*, chapter 3)

"For the second step, let us take an exercise that at first glance may seem to some a bit more simple than the first. This will be strictly for the sensation of sunshine on the body. I shall refer to it, as I did the previous exercise, as "working for" sunshine. The creation of sunshine may seem to some as a somewhat abstract type of sensation. By this I mean there will be no coffee cup to "hang onto" or to touch, taste, or smell, as in the the first exercise. However, for anyone who has ever sat directly in the rays of a good hot sun, they will realize there is nothing abstract about the experience.

EXERCISE II

(A) Use the same kind of straight-back chair used in Exercise I, rnaking the same effort to relax and to rid the body of all muscle tension. Put the body into a position in the chair whereby you could come the closest to falling asleep if need be. Sit in the chair in an attitude of basking in the sun. Most probably the eyes wiil be closed and the body motionless.

(B) Now try to make the effort to remember the sensation of the sun on your face. When you sit in the sun, where do you feel the heat of its rays on your face? Do not say that you feel them all over your face. Generally, thiis may be true, but not specifically. There are specific places where the sun is felt first, and generalizations have no place whatsoever in sensory exercises. The first places on your face which experience the sensation of sunshine are the places most exposed. That is, the higher planes of the face; these being the bridge of the nose, the forehead, and perhaps the upper lip.

Keep your concentration centered on these locales and then gradually let your "sun" descend on the rest of the body.

(C) Try to remember how its rays feel as they soak into your clothing. Where do you feel the heat of the rays on your body? If you will notice, the feeling is slightly different when the rays hit a clothed area than when they hit the face. The rest of the body will feel a degree of heat ranging from a mild body warmth to a sticky, stifling kind of heat, depending upon the actor's concentration.

(D) Now go back to the face and, as you quietly sit in concentration, try to rernembsr the feeling of the sun when you remain exposed to it for any prolonged length of time. Recall the sensation of heat-caused perspiration around the forehead, the moistness of the hair line, the minute beads of perspiration that form across the nose and under the eyes and on the chin. If your concentration is working on recalling all of these tasks and any more peculiar to the individual, you should now begin to experience a definite awakening of the senses involved. It usually takes only one or two attempts with full concentration to stimulate the senses to react in full force as they would under the actual conditions.

(E) Return again to the area of the body and the legs. With the legs stretched out in front of you, define *exactly* for yourself where you feel the sun strongest. (This will vary with the individual, too.) Become aware of the sensation of clothes clinging to the body during the heat of a midday sun.

(F) Concentrate now on the area of the body that is not exposed directly to the sun's rays (the back of the leg, the nape of the neck, under the arm, the seat, etc.) continuously exploring the sensations of one and then the other, finally returning again to the face. Spend at least fifteen minutes on the exercise, concentrating on and becoming aware of the various degrees and kinds of heat the body experiences. As soon as one degree or kind of heat is experienced, try to hold on to it and go to another. Do not be solicitous if on the first attempt you are unable to keep them all going at the same time. It sometimes requires several attempts, depending upon the indiviudal actor's strength of concentration.

An exercise such as the previous one is supposed to result in a partial or complete reality depending on what the individual actor thinks is best for the scène in which he is using it. I have seen actors in class sit under the cold glare of a stage worklight high above them with the perspiration flowing off their faces and showing the telltale marks of dampness on their clothing."

APPENDIX C:
Questions to be asked in an exercise of **Emotional Memory.**

Actor has found a memory, involving other person(s). Opens his eyes.
- What does the other person look like?
What color is the (his/her) hair? How is it combed?
What color are the eyes?
Remember the form of the nose and the mouth. What can you notice about the lips?
What is the skincolor?
Are there any scars visible? Pimples, warts?
What is the person wearing on the upper part of his/her body? What color, what fabric?
Same for their legs.
What can you remember about the shoes?
Look at the hands. Notice their form and characteristics.

Actor closes eyes.
- What smell do you associate with this person?
What does his/her voice sound? (Heavy, light, accent, nasal?)
How does the person pronounce your name?
Does he use a nickname for you? And you for him/her?
Does he have a favorite expression?
Was it long ago that you heard it said?
What sentence of this person bothers you most?
How does the persons voice sound when talking to you (superior/inferior)?
What are you jealous of with this person?
What do you respect about this person?
What bad things could happen to this person?
Could you picture this person lying in his coffin?
Has he played with his life?
Could he die in a specific situation you can picture?
Could you prevent that?
Touch this person.
Lay his/her hand on your breast.

Actor opens eyes, watching other actor to play scene with.
- Look at each other.
What do you hate about this person? (note: questions still refer to the person from memory)
How can he be dangerous for you?
How can he hurt you?
How can you prevent them from doing that?
What would you like to say to this person?
  (more specifically, if needed:
  Do you love this person? If so, tell him/ Do you miss this person?
  Say how you feel about this person.)

Actor speaks out for first time.

(from course in Acting for Camera, by Delia Salvi 1988.
Note that this is not a protocol to be followed strictly, but a collection of possibilities. Variations and shortcuts are natural, and at the director's will as the exercise progresses.)
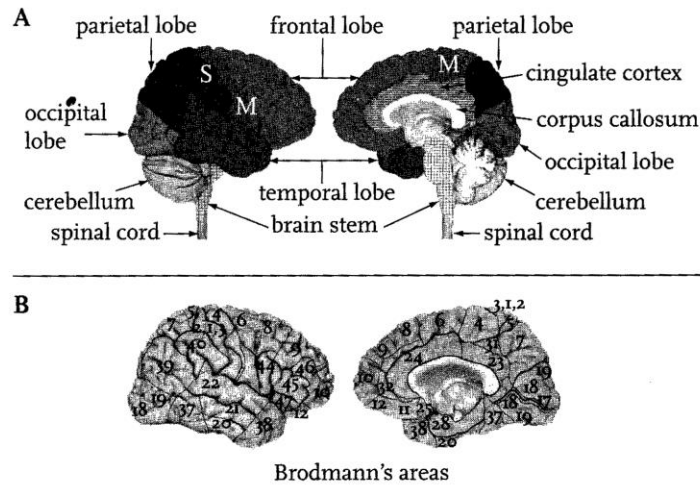
APPENDIX D:
Brain areas and vocabulary. (from A.Damasio, *Looking for Spinoza*)

Brain Anatomy

Figure 1. The two top panels (A) depict the externally visible divisions of the central nervous system: the cerebrum, with its four lobes (occipital, parietal, temporal, frontal) and the cingulate cortex; the cerebellum; the brain stem; and the spinal cord. The left panel shows the lateral (external) view of the right cerebral hemisphere. The right panel shows the medial (internal) view of the same right cerebral hemisphere. S = sensory; M = motor.
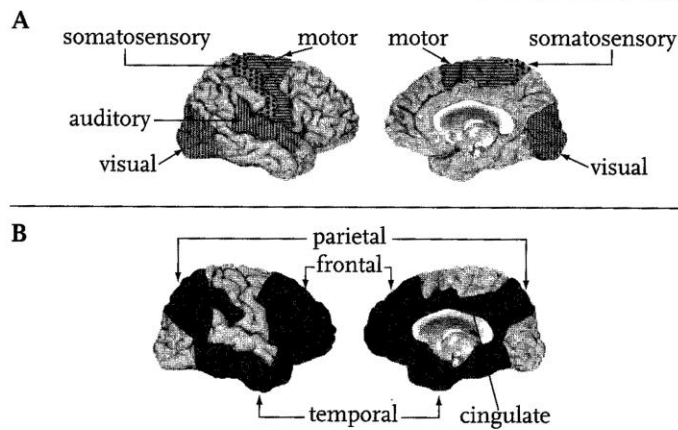
Figure 2. Two types of cerebral cortex. The top panels (A) depict the motor cortices and the primary (so-called "early") sensory cortices for vision, hearing and body sensations (somatosensory). The cortex of the insula, which is also related to body sensations, is not visible because it is hidden by the lateral parietal and frontal cortices (see Figure 3). The shadowed regions in B cover the association cortices of the several lobes and of the cingulate region. These cortices are also known as "higher-order" and "integrative."

Bibliography:

Books used in abbreviation:
TOK   *The Tree of Knowledge*   1988 Varela, Francisco & Umberto Maturana
                                    Shambhala, Boston
TEM   *The Embodied Mind*   1991 Varela, Francisco & Eleanor Rosch, Evan Thompson
                                    The MIT Press, Cambridge Mass.
SP   *Social Practices*   1996 Schatzki, Theodore
                                    Cambridge University Press, Cambridge MA.
MLIA *My Life in Art.*   1924   Stanislavski, Constantin
                                    (transl: J.J.Robbins) Little, Brown, and Company, Boston.
AAP   *An Actor Prepares*   1936   Stanislavski, Constantin
                                    (transl E. Reynolds Hapgood) Theatre Arts Books, New York.
M   *Training an Actor - the Stanislavski System in Class*. 1979 Moore, Sonia
                                    Penguin Books, New York.

On theatre:
Blair, Rhonda   2002   'Reconsidering Stanislavski: Feeling, Feminism, and the Actor'
 in: *Theatre Topics* - Vol.12; 2 September 2002 The Johns Hopkins University Press
Cohen, Martin   1981   2 *studieverslagen Stella Adler Conservatory of Acting*
  private publication
Easty, Edward Dwight 1981.   *On Method Acting*. The House of Collectibles, Orlando.
Edie, James   1971   'The problem of enactment'
 in: *Journal of Aesthetics and Art Criticism* 71:29
Hughes, R.I.G.   1993   'Tolstoy, Stanislavski and the art of acting'
 in: *The Journal of Aesthetics and Art Criticism* 51:1
LaGuardia, Robert   1977   *Monty.* Avon Books, New York.
Stanislavski, C.
- 1950 *Building a character* (transl: E. Reynolds Hapgood) Eyre Methuen, London.
- 1952 *Der Schauspielerische Weg zur Rolle*. Including articles by: W. Prokofjew,
  W.Toporkow, B. Sachawa. G. Gurjew. Verlag Bruno Henschel und Sohn, Berlin.
Strasberg, Lee   1989   *A dream of passion*. Methuen Drama, London.

On philosophy and cognition:
den Boer, Johan   2003 *Neurofilosofie - hersenen, bewustzijn, vrije wil.* Boom, Amsterdam
Clark, Andy
- 1998 'Embodiment and the philosophy of mind' in:A. O'Hear (ed) *Current Issues in
  Philosophy of Mind: Supplement 43* Cambridge University Press, Cambridge.
- 1998a 'Magic Words: How Language Augments Human Computation' in P. Carruthers and
  J. Boucher (eds) *Language and Thought: Interdisciplinary Themes* Cambridge University
  Press, Cambridge p.162- 183
- 1998b 'Where Brain, Body and World Collide' in: *Daedalus : Journal of the American
  Academy of Arts and Sciences* (Special Issue on The Brain) 127 (2) Spring 1998
- 1999 'Visual Awareness and Visuomotor Action' in: *Journal of Consciousness Studies*
  6:(11-12) 1999
- 2001 'Visual Experience and Motor Action: Are the Bonds Too Tight?' in: *Philosophical
  Review* 110 (4) October 2001
- 2002 Is Seeing All It Seems? Action, Reason and the Grand Illusion' in: *Journal of
  Consciousness Studies* 9 (5/6) 2002

84

Damasio, Antonio
- 1995 *Descartes' Error* Avon books, New York.
- 2003 *Looking for Spinoza* Harcourt Inc,New York/London.
Dawkins, Richard   1976   *The selfish gene* Oxford University Press, Oxford
Dennett, Daniel   1991   *Consciousness Explained* Little, Brown and Company
Heidegger, Martin   1998   *Zijn en Tijd* SUN, Nijmegen (transl: Mark Wildschut)
  org: *Sein und Zeit* 1927 Max Niemeyer Verlag, Tübingen
Johnson, Mark   1990   'Embodied Reason' in: *Perspectives on embodiment: the inter-
  sections of nature and culture* eds. G.Weiss & H. Fern Haber Routledge, New York 1999
Lakoff, George & Johnson, Mark 1999 *Philosophy in the flesh; the embodied mind and its
  challenge to western thought.* Basic Books, New York.
Lakoff & Gallese,Vittorio 2005 'The brain's concepts: the role of the sensory motor system
  in conceptual knowledge' in: *Cognitive neuropsychology* 22 (3/4)
Merleau-Ponty, Maurice 1962 *Phenomenology of perception* Routledge, London
  (transl: Colin Smith) org: *Phénoménologie de la Perception* 1945
Onfray, Michel   1993   *De kunst van het genieten* Ambo, Baarn. (vert: Piet Meeuse)
  org: *l'Art de jouir* Bernard Grasset, Paris 1991
Piaget, Jean   2003   *Meine Theorie der Geistigen Entwicklung* Beltz Verlag, Berlin
  org: 'Piaget's Theory' in *Carmichael's Manual of Child Psychology* New York 1970
Quine, Willard Van Orman 1969 'Epistemology naturalized' in: *Ontological relativity*
  Columbia University Press, New York.
F. de Saussure   1983   *Course in general Linguistics* (transl: Roy Harris)
  Duckworth, London. Org: *Course de linguistique generale* Payot, Lausanne 1916
Michael Tomasello   1999   *The cultural origins of human cognition*
  Harvard University Press, Cambridge MA
Varela, Francisco
- 1996 'Neurophenomenology, a methodical remedy for the hard problem' in: *Journal of
        Consciousness Studies*, 3 (4) 1996
- 2001 & Evan Thompson 'Neural synchrony and the unity of mind' in Axel Cleeremans
  (ed), *The Unity of Consciousness: Binding, Integration and Dissociation* Oxford University Press,
  New York.
- 2003 & Natalie Depraz, Pierre Vermersch *On becoming aware* Benjamins, Amsterdam.
Vroon, Piet   1989   *Tranen van de Krokodil* Baarn, Ambo
Lev Vygotsky   1986   *Thought and Language* MIT Press, Cambridge, Mass. org:1934
  (transl: Alex Kazulin)
Wilson, Margaret   2002   'Six views of embodied cognition' in: *Psychonomic Bulletin &
  Review 2002* 9(4) Psychonomic Society
Wittgenstein, Ludwig 1984   *Philosophische Untersuchungen* Suhrkamp, Frankfurt an Main
  org. Ausgabe 1953 Blackwell, Oxford.

On Mental Imagery:
Annett, John   1995   'Motor Imagery: perception or action?' in Behrmann 1995
Arbib, M.A.   2000   'The Mirror System, Imitation, and the Evolution of Language'
  in: *Imitation in Animals and Artifacts* (C. Nehaniv and K.Dautenhahn, eds) The MIT Press,
  Cambridge
Behrmann, Kosslyn, Jeannerod. (eds) 1995 *The Neuropsychology of Mental Imagery*
  Elsevier Science Ltd, Oxford.

Cornoldi, Cesare et al.
- 1988 & de Beni & Pra Baldi 'Generation and retrieval of general, specific and autobiographic images representing concrete nouns' in: *Acta Psycholigica* 72 (1989) North Holland
- 1995 & de Beni, Rossana & Pazzaglia, Fr. 'Memory for different kinds of mental images' in: Behrmann et al.

Farah, Martha   1989   'Is Visual Imagery Really Visual? Overlooked Evidence from Neuropsychology' in: *Psychological Review* 95(3), July 1988, p 307-317

Finke, Ronald   1989   & Pinker & Farah 'Reinterpreting Visual Patterns in Mental Imagery' in: *Cognitive Science* 13 (51-78)

Gardini, Simona & de Beni, Rossana & Cornoldi, C.
- 2003 (abstract) 'Can we have an image of a concept? The generation process of general and specific mental images' in: *Imagination, Cognition and Personality* 23 (2-3)
- 2005 'Different neural pathways support the generation of general and specific images' in: *Neuroimage* 27, Elsevier
- 2005 'Left mediotemporal structures mediate the retrieval of episodic autobiographical mental images' in: *Neuroimage* Elsevier. *in press*

Jeannerod, Marc
- 1995 'Mental Imagery in the motor context' in: Behrmann et al. 1995
- 1997 *The Cognitive Neuroscience of Action* Oxford, Blackwell Publishers.

Kosslyn, Stephen
- 2001 & Ganis,G. & Thompson,W. 'Neural foundations of mental imagery' in: *Nature reviews, Neuroscience* sept. 2001
- 2003 & Thompson, W. 'When is early visual cortex activated during visual mental imagery?' in: *Psychological Bulletin,* 129, pp.723–746.
- 2004 et al. 'Brain rCBF and performance in visual imagery tasks: common and distinct processes' in: *European Journal of Cognitive Psychology* 16 (5)
- 2004 & Denis & Mellet 'Neuroimaging of mental imagery: an introduction' in: *European Journal of Cognitive Psychology* 2004, 16 (5)
- 2005 'Mental Images and the brain' in: *Cognitive Neuropsychology*, 22 (3/4), pp.333–347

Mazard, Angélique et al.   2004   'A PETmeta-analysis of object and spatial imagery' in: *European Journal of Cognitive Psychology* 16 (5)

Rizzolatti, Giacomo & Gallese, Vittorio & Fogassi, Leonardo
- 2000 'Cortical Mechanisms Subserving Object Grasping, Action Understanding, and Imitation.' in: M. S. Gazzaniga (Ed.), *The cognitive neurosciences* (pp. 539–552, 2nd ed.) MIT Press, Cambridge, MA.
- 2001 'Neurophysiological mechanisms underlying the understanding and imitation of action' in: *Nature reviews, Neuroscience* sept. 01
- 2002 'Motor and cognitive functions of the ventral premotor cortex' in: *Current Opinion in Neurobiology* 12 (2) Apr02

Acknowledgements.

Notes to Introduction.

[1] See Varela 1991. Chapters 1 and 8 formed my introduction.

[2] In Appendix A I include a comprised cv, because my experience bears on the subject. It gives an impression of my finished productions in film and theater. Most of my longer filmwork is also listed at the Internet movie Database at: http://us.imdb.com

Notes to chapter 1.

[3] I will speak henceforth of 'body' as shorthand term, meaning the human body taken as a philosophical concept, for clarity using a capital. In the same vein mention will be made of Mind and World.

[4] In fact Descartes gave different formulations. 'Cogito, ergo sum' is from the earlier *Discours de la Mèthode*. In the later *Meditiations* it has become: 'Thinking is another attribute of the soul; and here I discover what properly belongs to myself. This alone is inseparable from me. *I am--I exist*: this is certain' (II, 6). Or again: '..this proposition (pronunciatum) *I am, I exist*, is necessarily true each time it is expressed by me, or conceived in my mind'(II,3)
see online txt at: http://www.renedescartes.com/meditations/ (my emphasis)

[5] For an overview of the traditional neglect of the body see Onfray 1991.

[6] See Merleau-Ponty 1962: introduction p.xvi Further refs are to pagenumbers in this edition.

[7] Not everybody uses the same definition.
Thus the *Philosophy Pages* give a more traditional definition, excluding feelings:
'The portion of human experience comprising thought, knowledge, belief, and inference (as opposed to sensation, volition, or feeling).' (see http://www.philosophypages.com/dy/c5.htm#cogn)
Damasio on the contrary regards feelings as conscious states of the mind - and thus part of cognition (See chapter 3ii). *The Encyclopedia of Philosophy* includes as subjects for cognitive science: language, memory, perception, problem solving' as well as 'other aspects of mind' such as: 'motivation, emotion, choice' and more. (See Enc. of Phil 2nd edition, part 2, p297)
Varela even speaks of knowledge 'whenever we observe an effective (or adequate) behavior in a given context' (See TOK p174). I follow them in using a wide, inclusive definition of cognition.

[8] See Varela 1991 p40. Chapter 3 gives an introduction of Cognitivism.

[9] Ibidem p96. Chapter 5 gives an overview of the Connectionism/Emergentism paradigm.

[10] See Quine 1969

[11] See Varela (& Rosch & Thompson)1991; *The Embodied Mind*, abbreviated: TEM.

[12] See TEM p3

[13] See TEM page 7.

[14] See Wilson, p625.

[15] See Varela (& Maturana) 1988; *The Tree of Knowledge*, abbreviated: TOK p. 26. Further refs in this section are to pagenumbers in this edition unless otherwise noted.

[16] Examples concern the single-cell organism of Physarum, a form of Myxomycetes, and the fungus species Dycostelium. See TOK p76-79

[17] The ratio in humans of the amount of sensory cells to interneurons to motor neurons is given as being 10 : 100.000 : 1. See TOK p159.

[18] See Dennett 1991, for an extensive discussion of and attack on what he labels the 'Cartesian theatre'.

[19] It may be argued that we should really speak here of a 0-perspective, belonging to a prelinguistic and pre-distinction phase. Still for clarity I will follow Varela and use the label '1st person'.

[20] For discussion see TOK, Chapter 6

[21] See TEM. Further refs in this section to pagenumbers in this edition unless otherwise noted.

[22] Study by Held and Hein, referred to in TEM p174-175. 'Kittens were raised in the dark, exposing them to light only under controlled conditions. A first group of animals was allowed to move around normally, but each of them was harnessed to a simple carriage and basket containing a memeber of the second group of animals. So the two groups shared the same viual experience, but the second group was entirely passive. When the animals were released after a few weeks the first group of kittens behaved normally, but those who had been carried around behaved as if they were blind: they

bumped into objects and fell over edges. The study supports the enactive view that objects are not seen by visual extraction of features, but rather by visual guidance of action.'

[23] Den Boer p206, translations and abbreviations are mine.

[24] Both Rosch's and Thompson's research are discussed in TEM chapter 8

[25] TEM 177,178. ref. to GeorgeLakoff *Women, Fire and Dangerous Things*

[26] See Piaget 1970/2003 p.13 *Introduction a l'epistemologie genetique* appeared in 3 vols,. Paris 1950. Piaget (1896-1980) wrote over fifty books and hundreds of papers, centered around the theme of finding a new epistemology based on praxis instead of on philosophical presuppositions. See TEM p 176; Varela suggests Piaget still accepted the 'pregiven world', which creates a tension in his theory, presenting the child as 'evolving from an enactive agent into an objectivist theorist'.

[27] TEM 177 ref. to Mark Johnson *The Body in the Mind*

[28] Lakoff & Johnson 1999. For a critique on the work of Lakoff and Johnson see Marina Rakova 'The philosophy of embodied realism: A high price to pay?' 2002. To be found at: http://www.degruyter.de/journals/cogling/cl13_3.html, followed by the reaction of Lakoff&Johnson.

[29] See Damasio 2003 and Damasio *Descartes' Error.*

[30] See Varela 1996, 2001 and 2002.

[31] Alternatively one could argue that the term 'embodied' does not imply any practical consequences. That would make it a completely abstract term; body not being abstract at all, this would make the term 'embodied' in fact meaningless.

[32] A quick scan of the Philosopher's Index database for publications in the last two years lists subjects diverse as: 'Embodied thought from Montaigne to Rousseau', 'Embodied knowledge in Haitian vodou', 'Embodied care', 'Embodied categorization', as well as 'Kant's theory of the embodied mind' and even 'Descartes embodied'. Remarkably there are no entries for 'Embodied cognition' as such, not even of the article by Wilson.

[33] the Internet Encyclopedia of Philosophy: http://www.utm.edu/research/iep/

[34] See Wilson 2002. (References are to page numbers, a and b refering to left and right columns.) The Wilson article has not been updated since, nor was it replaced by a more recent or more thorough overview, according to electronic databases. For that reason I will regard the article as the state of the art.

[35] Wilson p631, references to ao Churchland 1994, Arbib & Rizzolatti 1997, Glenberg 1997. See Chapter 3cII for a closer look at the actionlinked aspect of mental imagery, as well as relevant literature in this area.

[36] E.g. the new view of linguistic processing tying syntax to semantics, proposed by Langacker and Tomasello, see Tomasello 1998 'Cognitive linguistics'. Other refs to Langacker 1987 'Foundations of cognitive grammar'; Barsalou 1999 'Perceptual symbol systems'; Lakoff&Johnson 1999 & 1980 'Metaphors we live by'. The last example is discussed in more detail in chapter 4.

[37] In chapters 8 and 9 of TOK.

[38] See Schatzki 1996. Abbreviated as SP. Further refs in this section are to pagenumbers in this edition unless otherwise noted.

[39] See Wittgenstein 1953 par 580.

[40] Wittgenstein did think there might be a causal relation operative between neural states and inner episodes. But research into the brain itself was a far cry in Wittgenstein's days, long before the advent of neural imaging.

[41] See Schatzki p.37, ref. to Wittgenstein *Zettel* 78; he speaks of *Seelenzustände.*

[42] See p.54 reference to Wittgenstein 1953 p 496 of the German edition.

Notes to Chapter 2.

[43] Apart from Stanislavski 1936 and 1950, the further handbooks are *Creating a Role* (1961) and *An Actors Handbook* (1963)

[44] See Edie 1971, *The Problem of Enactment.*

[45] Stanislavski 1924 *My Life in Art* (MLIA) p.23-24. References in this section are to pagenumbers in

this edition unless otherwise noted.

[46] The name refers to the characteristic of representing inner states by an outer sign, as a symbol. In this context it is not connected with the paradigm of Representationalism from cognitive science, which takes the same name. Seen on a structural level, there is a kind of similarity. Cf remarks made in section IIIb and in chapter 4 on symbols.

[47] An Actor Prepares, p.22 Abbreviated as AAP.

[48] See Edie, p.304 note 6

[49] Discarding all traditional design for stage and set, the MAT will hit upon a new form: the empty stage on all sides surrounded by cloth of black velvet, which absorbs all unneeded light. It remains the basic set-up of modern theatres of today.

[50] Much has been written about Stanislavski supposedly misunderstanding the nature of Chekhovs 'comedies', interpreting them as melancholy dramas, and thereby setting the tone on how to play Chekhov for generations. MLIA makes it clear that Chekhov stood closeby at most of these productions and generally was not inclined to grant his plays to any company not of his liking. See for a discussion Hughes 45, citing letters from Chekhov to Nemirovitch-Danchenko; also Strasberg 39.

[51] Oliver Sayler: Inside the Moscow Art Theatre; Brentano's 1925

[52] See Strasberg, 1989 p.37,38. The second chapter of this book is a sympathetic retelling of Stanislavski's search, also containing critical notes.

[53] See www.kryingsky.com/Stan/AssociatedTheatres/bot1.html

[54] For a history of the reception of Stanislavski in America, including misconceptions: Sharon Carnicke, *Stanislavsky in Focus*. London: Taylor and Francis, 1998

[55] See LaGuardia p 39-42

[56] See Strassberg, p. 61,62.

[57] In a supreme irony, both Brando and Dean are said to have gravely misinterpreted and misrepresented the Method, introducing highly artifical traits into the required naturalism. At least that is the opinion of Easty, himself a loyal method student. What this would mean for our notion of 'great acting' in comparison with true Method-acting is not discussed. See Easty pgs. 79,146.

[58] *Stanislavski on Opera*, *Stanislavski's Legacy*.

[59] Sjarov is still fondly remembered by the now old generation of actors, who worked with him. Their acting, as shown on archive footage of performances from the fifties, now in turn seems dated. The realism appears stagey and artificial compared to more contemporary styles. See Hans Kellers tv documentary *Sjarov in Holland* and tv-series *Allemaal Theater* episode 2; The Revolution of Sjarov.

[60] see for instance Rhonda Blair 2002 *Reconsidering Stanislavski* Also Judy Weston's *Directing Actors;* Weston's course practice is more Stanislavskian than Method-based.

[61] See interview Peter Faber 'Een acteur bereidt zich voor' (An actor prepares) in: *Skoop, krities filmblad* 1975 XI/5 Amsterdam; Werkgroep Skoop/Zomer&Keuning tijdschriften BV

[62] Introductory course given at Toneelschool Amsterdam, by Rutger Weemhoff, '79-'80. Stanislavski is still taught at this Academy as a basic course.

[63] Courses by: Warren Robertson, a student of Strasberg, Acting '87; Delia Salvia, Acting for camera '88; Judy Weston, Acting for Directors, '97.

[64] Also the place of theatre in society has changed considerably, since the pre-cinema days of Stanislavski. Already in the eighties Dutch playwright/director Gerard-Jan Rijnders stated that the naturalistic style of storytelling and acting had found a new home in cinema and television productions and was better served by these media - necessitating the theatre to look for another style on penalty of becoming superfluous. The Dutch theatre in this respect seems to have a lead over that of England and the USA, where naturalism still is the standard in acting and set-designing.

[65] See MLIA chapters 45 & 53. Still through the years the name Stanislavski has come to be associated with a style of intense naturalism. Edie's comparison of 'Stanislavski's naturalism' with the explicitly political stance of Sartre is a case in point. See section IIa.

[66] See Edie 1971. The works Edie refers to are Brecht's 'On the Experimental Theatre'and Sartre's 'Beyond Bourgeois Theatre'.

[67] I use the male form: 'actor', 'his' and 'he' to avoid the tiresome summing up 'his/her' etc. This does not mean that the system would not work for female actresses, nor that I find them of less importance than their male counterparts.

[68] References in this section are to pagenumbers of AAP unless otherwise noted. I also make use of the books by Moore (M) and Easty (E) and Stanislavski 1952 (S)

[69] The numbering is for purposes of this thesis only and does not represent a System numbering.

[70] About Action: see AAP chapter 3, Moore class 4, and Cohen 1981, sketching the use of this concept by director/teacher Eugene Lansky. The word is not used in the same way by all authors: nowadays áction' often is used to designate just the inner side as opposed to the 'physcial action', but it is also still used for the totality of inner and outer.

[71] Théodule Ribot, 1839-1916, is regarded as the founder of psychology in France. The unmentioned book is *The Psychology of the Emotions*. Other publications include: *Les maladies de la memoire*, *La psychologie de l'attention*. For details see Strasberg p.111-113

[72] A thorough discussion of sense memory can be found in Easty, p. 21-36

[73] Strasberg claims the terms go back on Ribot's threepartite distinction between mental, physical and affective memory. The last category comprises Sense and Emotional memory.(See Strasberg 113) But his pupil Easty finds Affective and Emotional Memory to be identical and out of 'deference for my teacher' chooses the first term to designate the second.(E38) Be that as it may, sense memory is the more neutral tool, to sharpen our sensory capacities.

[74] An important difference between the version as presented in Appendix C with traditional Method-practice is that there the questions are answered in speech, and the narrative is a public phenomenon. This, added to the emotional results of the exercise, is mainly responsible for the association of Method/Stanislavski acting with psychodrama. For Method accounts of emotional memory see Easty p.38-48, Strasberg 150-151,

[75] See Easty 125-136.

[76] See Stanislavski 1952 *Der Schauspielerische Weg zur Rolle*. p19.

[77] According to Prokovjev, as told in Stanislavski 1952 p38.

[78] Ibidem p95. See also Moore p65 and AAP chapter 8.

[79] This direction was taken up by Polish director Jerzy Grotowski in the sixties. In his Theatre Laboratory he created a style of extreme physcial theatre with a group of highly trained actors. The goal being that through all physical contortions the actors ultimately reveal themselves, their innermost truths; via a completely bodily approach we wind up in the soul. The Theatre Laboratory achieved great fame in the sixties, but then Grotowski changed its course starting projects outside the theatre. His extremely demanding physical style was more studied than followed. See T. Burzynski & Z.Osinski *Grotowski's Laboratory* 1979 Interpress Publishers, Warsaw

[80] See Cohen feb. 81

[81] Sachawa notes quite rightly that an actor following in the Stanislavski tracks really will experience *two* psychophysical processes: one concurring with the life conditions of his persona, the other in concurrence with his own life. They are both supposed to exist. Even while the system entails that body ànd mind of the actor live the part, the actor is not supposed to forget himself, nor that he is on stage. '*To live a part means in the different prescribed circumstances of the play act truely and organically in your own name*' (S 65). What the method of physical actions suggest is that a fusion of the two processes happens, resulting in a complete 'living' of the part. (See S135-137)

[82] See Edie p304

[83] Ibidem and MLIA p562.

[84] See AAP 229-235: Inner Motive Forces.

[85] 'Txt' should be read as representing the sum total of data given in a text for use in the theatre, or data constituting an oral assignment. Most but not all exercises start with such textual data.

[86] See the research done by Cornoldi et al, treated in chapter 3, affirming the distinction between general, specific and autobiographical mental imagery.

[87] Judging from the title this may very well be the subject of Rhonda Blair's announced book on the

similarities between Stanislavski and modern neuroscience, entitled: "*Image and Action*: Cognitive Neuroscience and the Actor. Performance and Cognition." eds Bruce McConachie and F. Elizabeth Hart. For more information see Blair's homepage: http://faculty.smu.edu/rblair/

Notes to Chapter 3.

[88] For purposes of clarity the theory variants are distinguished according to the names of authors of the connected literature.

[89] One can argue that adding circumstances and action, as well as a set including props and clothing gradually turns it into a form of online cognition, as the performance is developing towards its finished stage. But the exercises are all done in the early stage of building a role, or for no specific role at all. There are no props, no stage, it is all imagination - so offline.

[90] As noted earlier, the two terms are not separated sharply by Stanislavski, in contrast to Damasio, see section IVc.

[91] In the same way one can argue how the imitation of (6) could become automatic. If the theory of mirror neurons is right, as Hurley, Arbib et al. argue, it may even be not difficult at all to accomplish automatic, unconscious imitation. See section c/iii for a discussion of mirror neurons.

[92] At least in adults. Children might not yet know certain feelings and/or not have learned their name.

[93] for reasons of brevity I will treat of the two authors as representing basically the same theory: Embodied Offline Cognition.

[94] See TOK chapter 8.

[95] See Chapter II section d.

[96] See Heidegger Sein und Zeit. e.g. pars 25-27, 38-41. But the themes of 'loss of self' (Selbstverlorenheit) and 'fallenness' are ubiqitous in the first part of the book, which presents the fundamental analysis of Dasein (Being).

[97] Neural synchrony and the unity of mind, see Varela 2002

[98] The level of experience, as different from knowledge, is a preoccupation for Varela. Its accurate description is the subject of *On becoming aware* and of articles like Varela 1998. It also seems the driving force behind the comparison with Buddhist practice in TEM - but as promised earlier I will leave that part out of consideration here.

[99] Schatzki, p.58

[100] Ibidem, refs to Wittgenstein 1953

[101] The group consists among others of Cesare Cornoldi, Rossana de Beni and Simona Gardini.

[102] See Cornoldi 89, de Beni 95p25. Kosslyn uses a similar taxonomy, of *prototypical* and *exemplar* images; the autobiographical appears as a subdivision of the latter. See Kosslyn, S.M., 1994. *Image and Brain: The Resolution of the Imagery Debate.* MIT Press, Cambridge, MA.

[103] See Cornoldi '89 p26. Given a certain noun, (DOG) a *general* image represents the concept without any specification or conscious reference to a particular example of it. (A dog) A *specific* image represents a single well-defined example of the concept without reference to a specific episode (E.g. the neighbour's dog, my dog). An *autobiographic* image represents the occurrence of a single episode in the subject's life connected to the concept.(My dog as it jumped from the balcony on a holiday in Italy)

[104] In deBeni '95.

[105] See Damasio 2003. All references to pagenumbers in this edition.

[106] See for instance p57, where he speaks of emotional memory. For a listing of likenesses between Stanislavski's and Damasio's views see Rhonda Blair 2002.

[107] See Damasio 1995

[108] See William James *The principles of Psychology* chapter 18 Online text at: http://psychclassics.yorku.ca/James/Principles/prin18.htm

[109] 'In fact, in 1913, the founder of Behaviourism, John B.Watson, denied that mental images even existed' - from Kosslyn 2001, p635a.

[110] Good overviews are to be found in Farah 89, Kosslyn 01 and the introduction of Behrmann95

[111] See Behrmann et al. p1.

[112] See Farah 1989

[113] EEG= electro encephalogram, ERP=event related potential, rCBF = regional cerebral bloodflow. Farahs evidence from clinical psychology: patients' histories showed that certain deficiencies in visual abilities lead to *parallel* deficiencies in imagery capacities. Evidence from neuroscience, measuring activity in specific areas of the brain: Imagery questions, e.g. as to the color of grass, proved to cause more bloodflow in the visual cortex than abstract questions, e.g. concerning the status of the categorical imperative.

[114] The distinction is not always clearly made in the literature. This may be a reason for some misunderstanding of results on my part, but also in the field itself.

[115] See Kosslyn 1999. The numbering of brain areas - or Brodmann areas - was the invention of German neurologist Korbinian Brodmann, presented in his *Vergleichende Lokalisationslehre der Grosshirnrinde* in 1909.

[116] See Kosslyn 2005 Refs in this paragraph to pagenumbers in this article.

[117] See Kosslyn 2004. Refs in this paragraph to pagenumbers in this article.

[118] Results may be influenced, and biased, by methodology. In a typical scan experiment persons are lying immobilized on their backs and fitted with a mask to prevent head movement - quite different from performing an imaging task uninhibitedly. (K2004,703) The imagery used in these tasks is of an abstract nature, mostly involving lines, figures, digits and letters. (K2004p701, K1999p167). This may be necessary for purposes of preciseness and verification, it still is quite different from imagery involving persons, places and situations which surfaces in a Stanislavski exercise. Lastly, these experiments are done with relatively small groups of 20 persons, recruited often from the local student population. This is hardly a representative group, possibly biased as to intelligence and linguistic abilities, which may be related to the subject at hand. One wonders what a different set-up of the experiment with a larger, representative group of test persons would show.

[119] See Millner and Goodale 95 in Clark 1999, also Jeannerod 1995 and 1997

[120] See Jeannerod 1997 p96 and Annett in Behrmann et al.1995.

[121] See Annett 1995 in Behrmann p62

[122] Ibidem p66.

[123] The timing of imaged movements respects the same constraints as that of actual movements; it takes a person as much time to walk to and through a door as to imagine himself doing this.(J97p98-104) Strong physiological correlates are found: EMG (electromyographic) activity is found to be the same in mental and actual training, as is the case with heart and respiration rate (J97p112). And PET and fMRI scans show that motor images indeed activate the anterior motor areas (SMA), but not the primary motor cortex M1, which is only activated during execution.

[124] See Jeannerod 95 in Behrmann et al. p90

[125] See Jeannerod 97 p114 - my emphasis

[126] As treated by Jeannerod 97 p48. Refs to Rizzolatti 1988, Di Pellegrino et al 1992 Rizzolatti et al 1995.

[127] See Jeannerod 97 p115

[128] Including Rizzolatti, Gallese and Di Pellegrino. See Rizzolatti et al. 2001, 2002, 2004

[129] See Rizzolatti et al. 2002, 2004.

[130] As witnessed by Hurley's recent question to a colleague. She asked neurophilosopher Erik Rietveld if he had any idea where such inhibitional mechanisms were to be located - personal communication ER)

[131] See Mazard et al 2004.

[132] Kosslyn 2001, p. 641

[133] Ibidem.

[134] See Gallese & Lakoff 2005, p456.

[135] See Hurley 2005p8

[136] See Clark 1998b Further refs in this paragraph to pagenumbers in this article.

[137] See Clark 99 p22

[138] As a side remark it is interesting to note that 'Embodiment' is a term none of the neuroscientists use, nor do they seem much concerned with the concept. This might be because they are empirical researchers studying the relations of body (=brain) and mind on a level where the notion of embodiment seems only trivial. Everything is embodied here. Kosslyn confesses to be openly reductionist, holding mind to be nothing else than the brain in action. In a reductionist materialist perspective every human phenomenon is embodied, it could not be otherwise. The situation is different for philosophers like Clark and Hurley. Embodiment thus seems a subject more typical of philosophy than of science.

[139] Recounted in Jeannerod 1995 p92

[140] See Gardini et al 2005 Further refs in this paragraph to pagenumbers in this article.

[141] Ibidem. 'The generation of general images seems to involve brain areas associated with the formation of global gestalt-like images (areas in the right hemisphere), while the generation of specific mental images appears to require additional support from areas involved in the retrieval of visual details (i.e., the right thalamus).' p.445

[142] See Gardini et al 2005b

[143] This is not one of the main concerns of the Gardini research. Although far from being a specialist in the field, I have tried a quick comparison of their two fMRI experiments, as to any significant outcomes for involvement of motor areas in the brain. Such a *significant activation* appears in the case of BA 6 (Brodmann area 6, the Pre-motor cortex including Supplementary motor area SMA). In motor hierarchy premotor areas come first, giving their information in turn to the motor cortex, BA 4, which moves the body. The latter connection will not function in a brain scan experiment because of immobilization of the participant. The significant activation of BA 6 always comes in conjunction with that of other areas.

[144] Ibidem, p2 refering to Kosslyn 1994. *Image and Brain: The Resolution of the Imagery Debate.* MIT Press, Cambridge, MA.

[145] Ibidem p2 - my emphasis

[146] See Heidegger 1927, par 15. Experience is a word Heidegger avoids, as he does with most other descriptive terms from traditional epistemology and ontology. This is strictly my interpretation of a piece of his highly idiosyncratic work.

[147] See Schatzki p.43

[148] 1st person and subjective are to be taken in a pre-distinctions sense as discussed in chapter 1b. See note 19.

[149] See Wittgenstein pars 116 and 5-9.

[150] See Dawkins 1976, chapter 11.

[151] Dennett 1991, p.254. Also pgs 199-209.

[152] Again it is interesting to point to the career of radical theatre maker Grotowksi (chapter 2, n79): after establishing his very bodily theatre of the nineteensixties he changed his approach completely, doing away with actors and performances, to work with the audience directly. These projects did not consist of any role playing. They were organized as journeys of discovery in nature, making the participants experience simple situations and re-experience bodily sensations in unexpected circumstances, such as a drop of water on the skin. Grotowski thought this move away from theatre necessary because "the whole everyday world has become theatre". Experience had to be regained on role playing. (Grotowksi's Laboratory, p108)

[153] See Vroon 1989, chapters 3 and 5

[154] Dennett, p190.

[155] See Damasio 2000 *The feeling of what happens* and *Looking for Spinoza*, op cit.

Notes on Chapter 4.

[156] The research of Cornoldi, de Beni & Gardini was treated in Chapter3c/i and vi.

[157] Of course the general image of Fear may be partly an imitation of other stage and screen-actors playing a certain fear, maybe overdoing it a little for effect. Thus the general image is probably not only socially constituted, expressing an idea, but culturally as well. The usual theatrical expression of fear in

Japan will be different from the one in the western world, with its Stanislavskian theater tradition.

[158] I am not sure what Stanislavski would say about the playing of a fried egg. He might have regarded it as pure training for stencils, but then again he could have seen it as an example of a 'magical if' exercise, with general and personal levels mixed up. My guess is that he might have liked the fun of it.

[159] Active verbs are the easiest to embody, linked as they are to bodily activity: e.g. beat, kiss, oppress, flatter. Passive verbs on the other hand - be overcome, be honored - are hard to express distinctly.

[160] On what level of categorization would 'meaning' be located? What words from lower levels are needed to explain this concept? It seems impossible to do without reverting to a practical example. This might be the defining characteristic of the really 'abstract level' of nouns: they can not be illuminated by directly underlying words, but need a whole story.

[161] See TEM p177 - my emphasis.

[162] Introspection/reflection is included in the senses, so the knowledge is not necessarily only of the 'outside world'. Hume states that ideas are less lively copies of the original impressions, and finds especially the abstract ones to be 'faint and obscure'. Especially with philosphical terms it may be useful to ask oneself from what impression they are derived. (see David Hume 1748 *An Enquiry Concerning Human Understanding.* 2,9)

[163] All of this is well known in acting practice. In any modern American course on acting, when analyzing a scene, actors will be discouraged to formulate the theme, 'what it's about', as a noun or a sentence. Instead they are asked to formulate what their character wants *to do* in the scene, by ways of an active verb, expressing an attitude towards another person. This is the *action*. Certainly the scene may be about 'feelings of superiority' or 'the distance between men', but this does not help the actor much. What helps is that the actor decides whether he wants to 'oppress' his co-player, or to 'soothe' her, or maybe 'ridicule' her. Active verbs can be played, as we've seen. Abstract nouns can not.

[164] See Dennett, chapters 7 and 8. Damasio p213-215.

[165] quoted in Tomasello p 201.

[166] Ibidem, p.164

[167] See Johnson 1999, p.100, 85.

[168] See Lakoff and Johnson, p.93

[169] See Gallese & Lakoff 2005. For Rosch's basic level of categorization see section b.

[170] See Vygotsky 1930. References in this section to pagenumbers is this edition.

[171] Quoted in Tomasello p201

[172] Cf. the discussion of perspectives in Chapter 1 section b on Varela.

[173] See Vygotsky p103/104 for a complete description of the experiment.

[174] See Gallese & Lakoff p473

[175] See F. de Saussure General principles, p67

[176] Ibidem: chapter I 'The nature of the linguistic sign'

[177] In fact this is why metaphor might have come into existence at all: as basically a tool for grounding too abstract concepts by way of analogy - 'the ship of state' instead of just 'state' - as if an extra outside staircase were added to the language building. Metaphor thus would be not foundational for language, as Lakoff et al. claim, but additional. A strong argument for this is the fact that actual metaphor only can work when first the separate elements are learnt, plus a certain leniency is acquired as to their literal meaning. Children often misunderstand metaphor, taking it literally; a state is not supposed to float on the sea at all! Metaphor thus seems a later architectural addition to the basic building, functioning as adornment or emergency escape between levels.

[178] See Tomasello pgs. 174, 189. References in this paragraph to pagenumbers in Tomasello.

[179] Refering to Karmiloff-Smith, see Tomasello p194

[180] See Piaget p 61-62

[181] See chapter 1b, and TEM p. 208ev. Refs in this section to pagenumbers of TEM.

[182] This is reminiscent of Wittgensteins proposal to view language as a city: combining an old chaotic center with new orderly suburbs, forming a fundamentally pluralist, non unified whole - see PU par 18.

[183] See eg Paul Smolensky 1997 'Optimality: From neural networks to universal grammar' co-author Alan Prince *Science* 3/14/97, Vol. 275 Issue 5306, p1604

[184] See chapter 3b question 3, and Varela 2002 p.13

[185] References in this section to pagenumbers from Schatzki 1996.

[186] See Andy Clark 1998 Refs in this section to pagenumbers in this paper.

[187] Words in themselves are action neutral; they will not be so in their use, given the natural links of some verbs and nouns with action, as shown in section Vb. See Clark 98, p25.

[188] See Andy Clark 1998a, next refs in this paragraph to pagenumbers in this paper

[189] See Andy Clark *Mindware* 2001 (Oxford University Press, New York) In this view our minds constantly reach out into the world via external artefacts, like language. Mind thus becomes something much larger than the individual brain. 'The biological brain is only one component of the intelligent system we call the mind'.(Clark 98/2, p15)

[190] See Clark 99 *Visual Awareness and Visuomotor Action* p22.

[191] See Clark 2001, next refs to pagenumbers in this paper. See also chapter 3c/iv.

[192] See The Internet Encyclopedia of Philosophy: http://www.iep.utm.edu/

[193] Of course this is just what the term abstraction describes: to be 'abstracted' *means* to be taken away from the particular and singular level of phenomena – e.g. personal and bodily experienced - to a more general level.

[194] See Damasio pgs. 37, 45

[195] Cf. Dennett's argument that a 'self' has not a definite location at all, but should be seen as 'a center of gravity around which we spin narratives of who we are' - see Dennett chapter 13 'The reality of selves' , especially section 3.

[196] In naming the experiencing mind we might change the E into a P, to stand for alternative readings like 'Pre-linguistic' or even 'Phenomenological'.

[197] See den Boer p219.

[198] See discussion of Johnson in section 2b and again 4c.

[199] See den Boer chapter 2 for a very useful schematic overview and an extended discussion.

[200] See Dennett p 34-35.

[201] Cf. the opinion of Austrian philosopher Otto Neurath: 'each strictly scientific thesis should in its general lines be made understandable to a taxi driver, using hís language'.('Protokollsätze' in *Erkenntnis* 3 1932) In fact for a lot of theoretical enterprises it could be a very useful exercise to bring the results back to ground level.

[202] See chapter 3b question 2 and Schatzki p.68

[203] For procedures see Gardini et al 2005