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S P A C E W A L K I N G

**How to exchange capacities of the moving
body and the shaping of architectural space**

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SPACEWALKING

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Abstract

The experience of creating and implementing space as such is a major issue. It is in the process of architectural becoming, that the most revolutionary potentials of digital and analogue interactions reveal themselves. My paper confronts a posit made in the conference theme, saying: 'it is still possible to claim that architecture only exist in the analogue world – that architecture as space and materiality in relation to human senses and bodies does not take shape as architecture, until it has been completed'.

Spacewalking exchanges capacities of the kinesthetic body and the shaping of architectural space by use of digital and analogue interactions. The conception of a moving body as generator in the creative process is in focus in actual theories about design practice, concluding that being-a-body in its many scales is fundamentally related to how we generate spatial material. The question is not why but how the body – i.e., which aesthetical and ethical values do we incorporate in the process? How do we literally use the body to construct? Which tools, practices and logic of presentation do we evolve as modes-of-operation?

The paper is based on my research-by-design project named: *mixed movement in the composition plane*. Here I explore the constitution of architectural space letting architectural questions appear through emerging shapes. This work will be produced as an architectural 'game-engine', chosen as a format with potentials of intuitive transference of kinaesthetics and seamless mixes of analogue and digital movements. Spacewalking then is a prototype and teaser to *mixed movement*, completed in Flash format.

In the paper the following issues are discussed, relating to actual design theories:

'Give me a body then':

Passage from the everyday to the ceremonial body, from normal to aberrant movement.

Movement-vision:

Body-movement/sensation-change – kinaesthetics as multi-dimensional experience.

Affectivity and digital image:

Capacity of the sensorimotor body to create the unpredictable.

Body and image - splitting or doubling of perception into machinic and affective vision.

The computer as embodied prosthesis.

Furthermore *Spacewalking* is presented:

Spacewalking - series of 'becoming-other':

Constituting architecture.

Series of body-space creation, supplied with:

Spacewalking - illustrations:

Spacewalking series25.2 - sequences

Spacewalking series(25)24.1 - sequences

'Give me a body then'

Passage from the everyday to the ceremonial body, from normal to aberrant movement. To think is to learn what a non-thinking body is capable of, its capacity, its postures – it is through the body, that cinema forms its alliance with the spirit, with thoughts – says philosopher Gilles Deleuze (GD) in *Cinema 2, the Time-Image*.

'Give me a body then', is first to mount a camera on an everyday body, making the camera invent the movements or positions which correspond to the genesis of bodies, as a formal linkage of their primordial postures. To mount a camera on the body, then takes on a different sense – it is no longer a matter of following and trailing the everyday body, but of making it pass through a ceremony – make it into a grotesque body, but also brings out of it a gracious and glorious body, until the disappearance of the visible body is achieved. The goal of the cinema of the body is not a picturing of the literal body, rather it is to give expression to forces of becoming that are immanent in bodies, as well as the body's receptivity to external forces through which it can transform itself - we barely know what a body can do.

In *Cinema 2 GD* also differentiates between normal and aberrant movement – what we mean by normality is the existence of centres: centres of the revolution of movement itself, of equilibrium of forces, of gravity of moving bodies, and of observation for a viewer able to recognize or perceive the moving body, and to assign movement. Aberrant movement then, is movement that avoids centring in whatever way, and as such being abnormal, aberrant. If normal movement subordinates the time of which it gives us an indirect representation, aberrant movement speaks up for an anteriority of time that it presents to us directly, on the basis of the disproportion of scales, the dissipation of centres and the false continuity of the images themselves. This direct image of time is that of pure virtuality, that affects the visible with a fundamental disturbance, and the world with a suspension, which contradicts all natural perceptions. What it produces in this way is the genesis of an 'unknown body' which we have in the back of our heads.

Movement-vision

Body-movement/sensation-change – kinaesthetics as multi-dimensional experience. Cultural theorist Brian Massumi (BM) introduces his book, *Movement, Affect, Sensation*, by announcing: 'when I think of my body and ask what it does to earn that name, two things stand out. It moves and it feels. In fact, it does both things at the same time. It moves as it feels and it feels itself moving.' Massumi explores the implications for cultural theory of this simple conceptual displacement: body-(movement/sensation)-change. By connecting body and contemporary media, BM

links a cultural logic of variation to question of movement, affect, and sensation, and confronts cultural theory of the past decades. He argues that, in these theories, attention to the literality of movement was deflected significantly by fears of falling into a 'naive realism', into a reductive empiricism that would dissolve the specificity of the cultural domain in a plain, seemingly unproblematic, 'presence' of dumb matter.

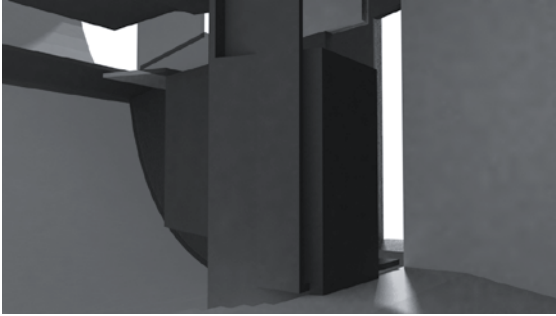
BM reconceives the potential reach of the moving body: 'when we see one object at a distance behind another, what we are seeing is in a very real sense our own body's potential to move between the objects or to touch them in succession. Seeing at a distance is a virtual proximity: a direct, unmediated experience of potential orientings and touches on an abstract surface by combining pastness and futurity. Seeing is by nature synaesthetic, and synaesthesia is by nature kinaesthetic. Every look reactivates a multi-dimensioned, shifting surface of experience from which cognitive functions emerge habitually but which is not reducible to them.'

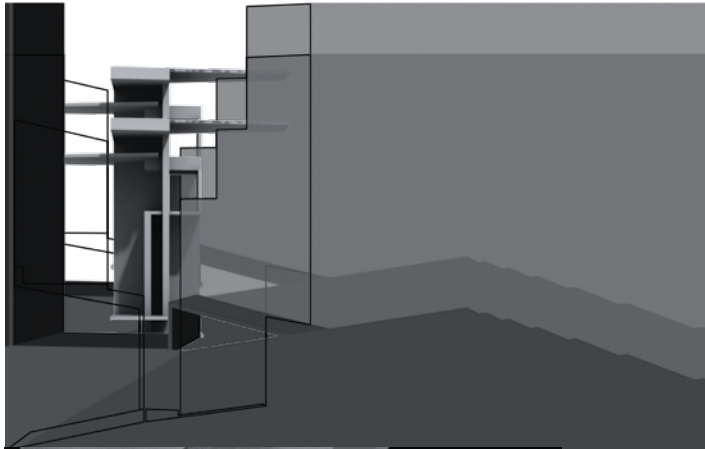
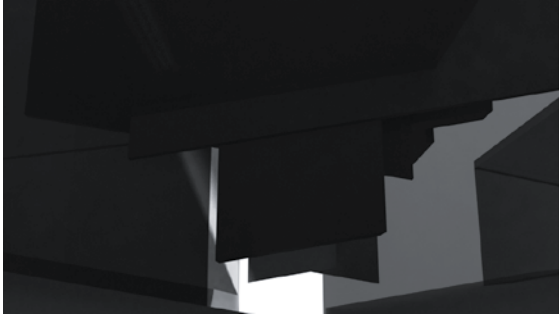
He introduces the differentiation between movement-vision and proprioception. Movement-vision is an opening onto a space of transformation in which a de-objectified movement fuses with a de-subjectified observer. This larger processuality includes the perspective from which it is seen, and grasps the movement, and only the movement. Movement-vision then names the bodily 'underside' of vision, a form of proprioception orientated towards external perception, whereas proprioception proper designates the body's nonvisual, tactile experience of itself, a form directed towards the bodily production of affection, Brian Massumi says in *Sensing the virtual, Building the insensible*.

Affectivity and the digital image

Capacity of the sensorimotor body to create the unpredictable. 'There is one image which is distinct from all the others, in that I do not know it only from without by perceptions, but from within by affections: it is my body. I examine the conditions in which these affections are produced: I find they always interpose themselves between the excitations that I receive from without and the movement which I am about to execute, as though they had some undefined influence on the final issue. My body is, then, in the aggregate of the material world, an image which acts like other images, receiving and giving back movement'. A citation of philosopher Henri Bergson in *New Philosophy for New Media*, a major contribution to the question of digital media art, by Mark B. Hansen (MBH).

MBH argues that what he calls affectivity precisely is that mode of bodily experience that mediates between the individual and the pre-individual, the body and its 'virtual' milieu. In this sense, affection supposes a virtual field of forces - it constitutes an internal space which isolates an effort or a force rather than an object or a form. Affectivity is a field of forces that is internal to the body, while perception is a space of external and objective forms. As a spatiality or spacing where the body is felt from within, rather than seen from without, affectivity appears as a sort of permanent and diversified experience of oneself, in a body which becomes in a way the body of someone, and not only that of a living and acting being in general. Insofar as the sensorimotor nexus of the body opens it to its own indeterminacy, it is directly responsible for the body's constitutive excess over itself. In this respect motion functions as the concrete trigger of affection,





Series25.2

Sequence of moving-through a model, generated from a mirroring-left/right figure. Sequence of choosing mask-images. Sequence of mutation.

Series(25)24

Sequence of mask-images, chosen from deforming parameters in a model, generated from a folding-inside/outside figure (affected by a mirror figure). Sequence of mutation.

as an active modality of bodily action. Affectivity then is the capacity of the body to experience itself as 'more than itself' and thus to deploy its sensorimotor power to create the unpredictable, the experimental, the new.

Body and image - splitting or doubling of perception into machinic and affective vision. Concerning the digital world, it requires us to reconceive the correlation between the user's body and the image. By digitations the 'image' has itself become a process – it can no longer be restricted to the level of surface appearance, but must be extended to encompass the entire process by which information is made perceivable through embodied experience. This process is what MBH proposes to call 'the digital image'.

Today's new media artists offer an alternative investment in the bodily underpinnings of human vision. At the heart of this aesthetic approach to the automation of sight is an understanding of the vision machine as the catalyst for a 'splitting' or 'doubling' of perception into, on the one hand, a machinic form and, on the other hand, a human form tied to embodiment and the singular form of affection correlated with it. Such a splitting of perception is simply a necessary consequence of the vast difference between computer and human embodiment, fundamental for any aesthetic redemption of the automation of sight. New media artists directly engage the bodily dimensions of experience that surface, as it were, in response to the automation of vision. Their work can thus be said to invest the 'other side' of the automation of vision – the affective source of bodily experience that is so crucial to reconfiguring human perception in our contemporary media ecology.

Today, seeing the world is no longer understood as a process of copying but of modeling, a rendering based on data. A person does not see the world out there, she only sees the model created by the brain and projected outwards. This feature of perception and construction points out, how the mechanical simulation of sight has a recursive impact on our understanding and our experience of human vision. This confrontation between two different levels of reality entails a composite experience, an inevitable twinning of contradictory perceptions for a spectator who is simultaneously active in both.

The computer as embodied prosthesis let us perceive movement itself in a way that fundamentally alters what it means to see. MBH cites architect Lars Spuybroek saying, that every prosthesis is, in the nature of a vehicle, something that adds movement to the body, that adds a new repertoire of action by changing the skin into an interface, able to change the exterior into the interior of the body itself. The body simply creates a haptic field completely centered upon it-self, in which every outer event becomes related to this bodily network of virtual movement, becoming actualized in form and action. As a vehicle in precisely this sense, new media art configures the body as a haptic field, thereby allowing it to exercise its creative productivity. In short, the body has become the crucial mediator – indeed the 'convertor' – between information and form (image): its supplemental sensorimotor intervention coincides with the process through which the digital image is created.

The computer, Spuybroek maintains, is an instrument for viewing form in time. When we see through the computer, we no longer look at objects, whether static or moving, but at movement

as it passes through the object. Today looking has come to mean calculating with the body - we build machines not just to connect perception and process, but to internalize these and connect them with the millions of rhythms and cycles in our body. Insofar as it employs the computer as a prosthetic 'vehicle' to transform the basis and meaning of vision, new media art can be thought of as an apparatus for producing embodied images, resituating the body's sensorimotor capacities by transposing it from the domain of vision to that of affectivity.

Spacewalking – series of 'becoming-other'

Constituting architecture. As stated in the opening of this paper, space is constructed through geometries, drawing techniques and contextual relations, among others, but not the least also through experiences of creation and implementation as such. Actually, constituting architecture works as a dialogue with the implementation in its many scales, using constructive as well as reflective thinking. Thus, the aim of my project is to challenge exchanges of digital and analogue moves as well as exchanges of praxis and theory, focusing on how they interact and determine/deform each other's logic. A hypothesis of the project is that the conceptual plane can 'get wiser' as well due to interference of the compositional plane of artwork.

Concerning architecture, the above encircled field of body-movement-variable as generator in the creative process can be seen also as an emblem for the still more complex relations that challenge the traditional synthesising form of architectural work, as well as the notion of the product of architecture as a closed aesthetical statement. This challenge accelerates the interest for strategies and tools capable of operating with complex exchanges, like mapping, diagrammatizing, and parametric modelling.

The only aesthetic problem of concern to philosophy, Deleuze argues, is the relation of art to everyday life. Art must not appeal to a transcendent world but to the world here and now in which we live. Everyday life is characterized by repetition as return of the same, and art incorporates these repetitions to expose its limits and to extract what is different and virtual. The task of a work of art is to open a line-of-flight that passes from the actual to the virtual, by interrupting repetition with difference. Art must extract from the habitual repetition of everyday life 'a little time in a pure state'. So the will to art consist of extracting difference from repetition by reversing copies into simulations, opening the capacity of the body to affect and to be affected by change.

The everyday and the ceremonial body, the normal and the aberrant movement, what these poles generate then, are less the difference than the passage from one to the other, the imperceptible passage of attitudes or postures to 'gest' or kinesthetic twists. The act of twisting is a basic mode-of-operation of art. It is related to the image of the body, distinct from all other images, in that I do not only know it from without by perception, but also from within by affection. The material of art is these felt forces of the world – art's problem is to capture forces, not to reproduce or invent forms, i.e., 'not to render the visible, but to render visible'.

Spacewalking makes invisible forces and the act of shaping appear and felt, constantly reflecting on the choice of media and drawing techniques as a decisive part of the implementation.

The work exchanges body movements, digital images, and the shaping of space as series of body-space creation.

A series is a sequence of images which tend in the direction of a limit at the same time as they orient and inspire a 'before sequence', and give way to a new series. Spacewalking produces and discusses series by exchanging three qualitatively different levels, each defined both as material and as calculation; both as tied to embodiment and as a machinic form; both composed as well by the use of deformation that relates directly to the body and by the use of transformation that abstracts and thereby make the material dynamic and operational.

The three possible resonating levels have the headings: *Recording* and *Mapping*. *Profiling* and *Diagrammatizing*. *Modelling* and *Presenting/Twisting*.

Recording a normal body movement, you withdraw the forces and rhythm from everyday life as an immediate affect. Creating spacewalking, I actually initiated the process by mounting a camera on an everyday body, mapping a normal forward going movement.

Mapping the movement, you transform it into an abstract material, into topological figures open for operation, and hereby create a first passage from the normal to a grotesque or aberrant movement. A normal movement is centred and subordinates the time of which it gives an indirect representation. Aberrant movement presents time directly, on the basis of disproportion of scales, dissipation of centres and a false continuity of images. This pure virtuality affects the visible with a fundamental disturbance, and the world with a suspension, which contradicts natural perceptions potentially producing the genesis of an 'unknown body' which we have in the back of our heads.

Profiling an abstract movement-material, you re-insert ordinary body-movements or body-space relations, now defined as simple compositional figures like: folding-inside/outside, mirroring-left/right, stacking-up/down, and displacing-ahead/behind.

Diagrammatizing material and figures as syntactical or contextual modes-of-operation, you organize them as powers forming an abstract machine. Power is relation of forces expressed as a diagram, using transformation as its main mode-of-operation. Power does not repress, it produces. It is not formal, but it 'formalizes': composes, limits, stratifies, territorializes and anchors itself in relations of forces, to the extent that it must territorialize or map them in the abstract machine. Power and resistance present two sides of a force as a reciprocal inside and outside – power cannot operate without calling on outside points of resistance: the fluidity and multiplicity of future-oriented forces that never ceases to shake and overturn abstract machines, awakening what is unsought in them. The diagram then, is a drawing-machine operating as a kind of body-scheme or 'abstract vertebrate', using matter not substance, function not form. The forces transformed by the machine can be actualized as widely different structures. Being folded and curled in some sequences of the embryogenesis it might emerge as lion, being twisted and pulled in others it turns out as zebra, the rendered process exposing the thinking with architecture.

Modelling/deforming/selecting provisional or emergent shapes, you again use the basic bodily power of articulation: rhythm and deformation. Rhythm articulates the figure, using different intensities like expanding, contracting and attending. Deformation disturbs or twists the figure, relating directly to the different sense organs of the body, passing from one to another.

Presenting the rhythmic series of deformations, you re-organize the viewing of the model, searching for potential singularities. What is common for singularities is that they all come from the outside: 'singularities of power caught in relation to forces; singularities of resistance which prepare mutations; and even savage singularities which rest suspended outside, without entering into relation or letting themselves being integrated'. You capture these singularities by interrupting the attending rhythm of the moving-through or moving-of the model, choosing/composing special kinds of views, abstracted intensities, or 'masks' as passages to a different field.

Twisting a dynamic model into masks, you work with extraction and re-linking of singularities into new sequences, coordinated/composed as well in time-line as in time-depth. A time-line sequence is the above presented series of masks; a time-depth sequence slows down or stands still in a resonating condition calling for resistance, invited by the open scale of a mask. The mask is a kind of 2.5D image, functioning as a filter including as well as excluding other forces. Because of its ambiguous character, the mask twists the conception of scale, articulation and points of view. You explore the character of a mask-image, looking for special lines and cracks, potentially framing new elements or articulations. This framing then can be used very differently for re-modelling, for example by inserting a new element related by figure but not by scale, rhythm, and point of view. You hereby create a kind of mutation, a double body/rhythm/entering condition, inviting architectural thinking to reconsider potential passages of becoming-other.

In the spacewalking section of the paper I have cited from Gilles Deleuze's *Time Machine* by DN Rodowick.

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