

SPACE IN MOTION

the Art of Activating Space In-Between

This thesis is a contribution to the emerging field of practice-based research in the arts: a field that has emerged as a result of how both academic knowledge production and contemporary art practice has shifted from disciplinary to transdisciplinary production. In Sweden, “artistic research” as different from “art research” has only recently emerged and a fundamental question is raised: How and with what tools can this kind of research contribute to art practice itself as well as to the wider academic field? Although until recently artistic research has been prevented from establishing a practice and discourse within the academic art field, I argue that art practice is nevertheless an important part of contemporary knowledge transfer. Furthermore, as an artist entering into academic research the issue of research methodology soon becomes crucial; not only because specific methods define research as a practice, but also because parts of contemporary art are characterised by *production of methods*.

In art practice a shift of emphasis from primarily producing tangible aesthetic objects towards intangible knowledge based processes has produced a new set of strategies and methods. These processes emerged from, and even changed, their spatial constraints (studios, galleries, museums) transgressing their borders in order to explore and work with urban sites and public places. One perspective, besides technological and global influences, can be found in the organisation of our contemporary society, with its separation of functions, ages and activities in institutions, dispersing the city itself. In order to bridge the consequences of a dispersed organisation, networks, that Marc Augé (1995) call “non-places” – motorways, metros, railways, airports and so on – aim to connect what has been disconnected. These networking structures though, produce an amount of *uncertain spaces*.

A spatial experience similar to art practice can be observed in the natural sciences, such as particle physics, in which practice shifted from small laboratories, to become dominated by large institutionalised laboratories, and then to a contemporary collective dispersed form of scientific production; this can be observed at CERN (the European laboratory for research in elementary particle physics, situated on the border between France and Switzerland, just outside Geneva).

Even the centred modernist subject, with complete control over tools and contexts has changed towards collective processes, peripheral sites and a decentred subject. This shift is not primarily motivated by rational decisions within the practices themselves, but by influences from societal, technical, political- and social factors on the way art and research is implemented in society, where it is no longer possible to keep strict barriers between discursive sites and actual places or between theory and practice.

How is it possible to understand the relation between dispersion, bridging constructions, and the production of spaces in-between? These spaces in-between have been employed in different ways in contemporary art practice in site specific projects and in the production of different strategies. The only way to understand how spaces in-between function is to *activate them by production*. Therefore, the main aim of this thesis is to explore the potential of spaces, experiences and concepts in-between, by *producing* relations between *body*, *site* and *concepts*.

In this thesis I present four examples, taken from my experience as a practicing artist and as teacher at the School of Architecture at KTH as well as from my collaboration with physicists at CERN, that embody these changes and their implications for knowledge production:

1. A swing mounted on a bridge; one of my art projects.
2. Walking and mapping strategies; as developed in my courses taught at the School of Architecture.
3. The myth about Penelope weaving.
4. The different rhythmic relations between bodies and machines at CERN.

These examples serve as rhythmic examples of how spaces, concepts and experiences *in-between* have to be *produced*, not analysed from a distance. By using these examples in the same thesis, rhythms from one example could influence the other. Merging my roles as artist, teacher and researcher, pragmatic experimentation with concepts and theoretical perspectives has brought new

material into the ongoing interaction between the places, corporeal perception and the concepts that are explored. Perhaps the clearest example of this is the importance of one of my art-projects for this thesis. In an attempt to reach a short moment of zero-gravity, an art experiment was performed using a forty-two meter high swing mounted on the bridge, Älvborgsbron, in Gothenburg harbour in Sweden (Sand 2002). The swing with its shining wires formed a large V, which on one hand stabilised the swing and on the other made it visible in the night. The dancer moved slowly through perspectives between the bridge and the ground. On releasing the swing from the electric winch her body fell fast *out of balance* captured in a rhythmic experience of being earthbound and then weightless. The rhythmic procedure of keeping the swing in motion employed the bridge and re-formulated its function by introducing another corporeal process. The swing project serves as a point of entry to this thesis and onto other rhythmic processes such as *walking*, *weaving* and *acting physics*; taken into the project one after the other, because of their capacity to activate spatial, temporal and theoretical dimensions of the *in-between*, and its hidden potential.

When in-between spaces are activated, the fragility and vulnerability of the connecting constructions, such as the bridge, are activated. A bridge and other parts of the public transport system produce a number of in-between spaces, planned as constructive parts of the system itself, but contradicting the planned function; used and inhabited by homeless people, garbage, graffiti, site-specific art, urban exploration and street art. This shows how structures intended to bridge over what has been separated in urban planning on the one hand facilitate networks, while on the other hand those constructions produce an amount of uncertain space, impassable borders and spaces in-between. Spaces in-between, employed regularly in contemporary art practice are often considered problematic, if noticed, in urban planning. In “Bodies and Cities” the philosopher Elizabeth Grosz (1995:108) states that “the body must be considered active in the production and transformation of the city”. In spaces in-between the relationship between bodies and cities or bodies and machines seems to be the problem. If other places are defined by their interaction between bodies, space and time, a corporeal interaction is undefined in spaces in-between.

This ambiguous location between the ideal and material, possible and impossible, makes the concept and the physical manifestation of space in-between both desirable and problematic. Grosz (2001:91) says: “the position of the in-between lacks a fundamental identity, lacks a form, a givenness, a nature. Yet it is that which facilitates, allows into being, all identities, all matter, all substance”. But when Grosz continues “the space of the in-between is that which is not a space, a space without boundaries of its own, which takes on and receives it-self, its form, from the outside, which is not *its* outside”, we may understand why the space in-between is treated as uncertain or dangerous. Their lack of identity does not make them passive, instead, when activated, as by the swing, they produce other potential combinations and relations.

By taking this ambiguous location into consideration, the questions are: What does an in-between position mean? Why are spaces in-between often treated as problematic? Is it possible to understand the in-between in another way? And is it possible to appreciate its uncertainty? As we can see in the swing project, the space between the bridge and the ground, understood as a passive distance, a void or a gap, was activated by creative production. If the potential of the in-between is activated only by production, the location and actions of the observer/researcher becomes crucial; perception and perspective differ and, as a consequence, definitions differ as well. Spaces, experiences and concepts in-between cannot be finally defined since they escape identity and must be understood as a rhythmic process of becoming. If as Deleuze (2004a:29) says: “A dynamic space must be defined from the point of view of an observer tied to that space, not from an external position”, the observer needs to move, perceiving the space bodily, producing relations when moving.

The examples in my thesis show how rhythmic processes, back and forth in the swing, walking, weaving and acting physics, oscillate between *representation* and the material *complexity* of the daily activities; between the bridge and the swing, between planning and actual situations, between history (Odysseus) and the home (Penelope), between the simple Standard Model¹ of particle physics and the complex organic organisation at CERN. It is not the rhythm itself though that activates the space in-

¹ The so called “Standard Model” summarises the present knowledge about the smallest constituents of matter and the forces acting between them.

between, rather it is activated by changing directions of the rhythm. That disruption is impossible to explore from a distance since it escapes order and must be *produced as a rhythmic transformation*. By using a bridging structure, by activating its constructive spaces in-between, the structure changes from within, thus revealing the power and danger in-between.

The swing in the bridge



In the chapter that discusses the swing on the bridge I demonstrate how the space between the bridge and ground was activated by producing a relationship between a swing and a bridge, between the construction and the body, between repetition and difference. The dancer's common repetitive *individual* process of self-mastery and daily exercise, moved by the swing, expanded a collective cultural experience. The transient combination "swing on a bridge" activated several in-between-spaces in the immediate surroundings of the bridge and created a set of new ones in the process of keeping the swing in motion. The in-between spaces were activated since they changed from solely constituting a distance or an expanse to a space where new situations arise. Where no human body previously had moved, a dancer oscillated in a swing. In the swing the body increased its range, while its capacity to influence the swing diminished: time was extended in the interval. A new set of aspects of "the art of swinging" changed earlier experiences of similar processes and rhythms of differences were created.

It was through the dependence on the bridge construction that the short intermission of the swing activated the space in-between and engaged the bridge in a transformation of its function and identity. That is to say that the capacity of the bridge to support more intermittent activities was exposed. The bridge renders its extent not only in space but in time as well by referring to the past and to the future. The vertical form of the swing contrasts the linear extent of the bridge, and in that combination the bridge deviates from itself by acting as a supporting structure for the swing, the dancer by her "mobile immobility" and the swing by its exaggerated dimension. Unlike to the bridge, the swing left no permanent record on the place where it established an exaggerated prosaic situation of short duration.

Walking/Mapping



In this chapter I use walking and subjective mapping strategies brought from contemporary art practice, to demonstrate how closely bound to perception, power and identity both walking and mapping are. Experiences of walking established a turning point in the western notion of art in the 20th century, when artists literally walked out from the galleries onto the streets, to produce a new set of strategies of moving. The urban exploration, with students, of a bomb shelter underneath one of the

liveliest urban areas of Stockholm, revealed layers of meanings, in-between orders, functions and definitions, far from official images of the city. The bomb shelter, amongst other spaces, confronted us with new ways of walking: instead of walking from one place to another, a more complex “rhythmic imbalance” between the body and the space was encountered - *walking* and *falling*.

Walking is rhythmic in many aspects: when taking in information through the feet, when oscillating between the left and the right foot, when going from one place to another, when losing balance and finding it again. Walking, among other activities, ties the body and its movement to the site. The shadows of the future - the war that never came – and remnants of people using the space as a daily shelter, worked as a disruption of the chronological linear succession of time itself. The temporal space of in-between was activated.

Geographical maps are neither neutral nor objective. Rather, cartography is structured knowledge and power that affects the perception of a certain culture. By regarding a map solely as an image of territorial facts, we simplify its powerful impact on knowledge and thereby actions in reality. Using mapping as a tool for exploring the city, contemporary artists use the map in a certain way that has been useful in my courses. The artist produces the map while moving. By that the body, the place and the map constitute an open-ended system that is constantly transformed in the process. Methods from, amongst others, the American artist Robert Smithson (60's-70's) and the contemporary Canadian artist Janet Cardiff imply an ever-changing relationship between the body (perception), the place (site) and the maps (concepts).

Smithson (1996) acting as an artist-geologist-archaeologist, placed memory-traces in the terrain he explored, while Cardiff's complex recorded audio “Walks” interact with ambient sounds (Cardiff & Schaub 2005). The potential of these methods lies in the “process of actualisation” (Grosz 1999): the creative production of a *potential reality* between the place in which we walk and the infinite combinations of streets and layers of time in which the present inhabits the past and the future, yet unheard and unseen.

Weaving

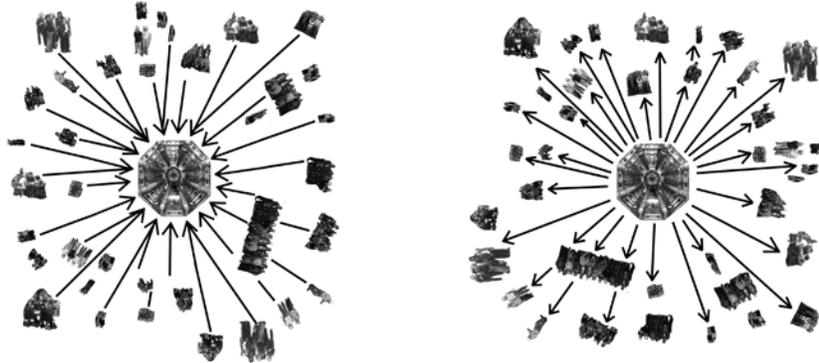


Throughout my entire material Penelope weaves and unweaves. The usage of the weave can be evaluated and compared to other similar products; but when suitors occupy the house, forcing Penelope to choose one of them, she changes the rhythm of weaving, from weaving linen to unweaving what she has woven. By that shift she aims to expand the temporal space between the absence of Odysseus, creating history, and her choice of a new husband. If the weaving before did unite her actions within the myth on which she depends, the new situation changes the meaning of both the product and process of weaving: the weaving becomes able to destroy her limited space of independence.

Even Penelope in her home is affected by a dispersed production, Odysseus travels, which influences the rhythm in her weave. When she changes from weaving to unweaving she is no longer content with passively waiting on others to decide for her. Compelling external circumstances initiate a creative process in which she decides to weave during daytime and unweave at night. Doing so she activates and expands the temporal interval she inhabits and the process of weaving changes from a *production of cloth* to *production of time*, a shift which the philosopher Adriana Cavarero (1995:16)

describes in following terms: "In the given order of things the time assigned to Penelope is predictable and productive", while the change in weaving technique as "tailoring for herself an unpredictable and impenetrable time". With her action she brings to the fore an uncertainty, an open future that is unknown to her and in her situation the uncertainty opening up is an advantage. The careful question "What difference if" not only changes the concept of weaving, but also the broken synchronisation between weaving and body changes action, perception and thought.

Acting Physics



CERN has influenced my art projects for several years and in this chapter I discuss the organisation of the place; the organisation of researchers; and more specifically the construction of the ATLAS detector that is due to run late in 2008, and the large organisation of researchers. At CERN, researchers create particles and meaning with the discursive aim to fill in the gaps in their theoretical model: the "Standard Model". In an extreme expansion between fragmentation (of matter) and large collective mechanic combinations (of materiality) in the daily work, rhythmic processes between bodies and machines change rhythmic directions from *doing* physics into *acting* physics.

The place itself can be seen as an inversion of the urban site. The experiments, well-ordered and planned are located in tunnels and caves beneath the surface, while the place on the surface has grown organically and in a temporal order, making it easy to follow the flow of people but complicated to find the right building. The spatial organisation is similar to a town: the product of different rhythmic processes where activities are collected and then dispersed. The initial goal of CERN was to gather resources and develop common strategies for research within fragmented European research following the Second World War (Galison & Jones 1999). At the same time research was increasingly transformed into an industrial style of organisation, with larger research groups and more complicated apparatus. Today CERN functions as a scattered laboratory, where machines and infrastructure are always present, while the majority of the people participating in the experiments are collected and dispersed to different places all over the world during the life-time of an experiment.

The CERN-site is, just like a city, constructed from rhythmic processes; but if "bodies and cities" are mutually defining (Grosz 1995:108), at CERN it is rather an ongoing relationship between "bodies and machines" that determines the rhythm of the place. Initially the research groups act like *assembling machinery* – in the initial phase when knowledge, resources and physical materials are collected in the detector. When the experiment is running they change into *interpreting machinery* when data from the detector is spread out to be interpreted. During the construction phase all material is brought to the machine and the underground area where it is assembled. During data recording, when the experiment is running, the process runs in the other directions – from the machine producing data to the dispersed groups commuting between "the place of the machine" and their home universities. Both processes are based in the detector constructed *in situ*, while the researchers commute between their home-countries and CERN, dispersed and recollected, organised and reorganised in different groups named after the part of the detector for which they are responsible.

The machine and researchers are mutually defined; the assembly of the machine, assembles the research group, to an extent that they shift functions. The machine ATLAS, the individual subject, *performs* in the experiment, while the assembly of bodies, resemble a machine and work as a machine,

in a rhythmic collective process when they (re)organise and (re)combine. The extended disparate rhythms during the construction phase of the experiment change into infinitely rapid rhythms when the experiment runs. These rhythms are too fast for human perception, but nevertheless influence it, albeit in the reverse direction.

Rhythm analyses



The creative production described in this thesis aims to expand the capacity of the body, changing the relations between the *site*, *machine* and *body*, by employing a bridging structure and activating its spaces in-between. In that production technical and collective processes merge, creating “social and collective machines” and another material reality between:

1. bridge/swing/dancer,
2. map/walking/site,
3. war/loom/weaving,
4. theory/detector/bodies,

The mechanical compositions described change corporeal capabilities, which means that it is neither possible to define a machine from planned usage only, nor can the body be defined as a unit beyond the machine or other bodies. A machine changes cultural patterns of behaviour, produces new ways of interaction, novel ways of writing dissertations, different ways to think and perform experiments, depending on how components are assembled and disassembled in the production process.

When spaces in-between are activated, a rhythmic connection between *theoretical simplifications* in the form of representations, definitions, theories, ideals and direct *corporeal complex forces*, which are a prerequisite for anything to happen, come into existence. According to Deleuze and Guattari (2004:345), rhythm is a way of ordering by making chaos rhythmic in organising a space, a home, a territory: “What chaos and rhythm have in common is the in-between”. [...] In this in-between, chaos becomes rhythm”. Rhythm creates the critical border between chaos and order. The examples show how production *in-between*, rhythmically ordering actions, within which Penelope, the physicists, dancers and artists enact a far more complex concept of knowledge than the rationally conscious, the daily rhythmic processes between *representations* of the *inside*; thought; being; knowledge; and complex *forces* from the *outside*; body; appearance; and creation.

In the thesis a multitude of rhythms – polyrhythms - enter into a relationship with each other. Experience from one example is used in another, different rhythms are combined and separated, certain rhythms are broken while others emerge. The emerging rhythms both dissipate and join collective experiences and imply a change of perception. Activating in-between spaces means activating *differences* in a construction or an identity, and therefore its potential for other rhythms and actions.

This thesis suggests another way of producing knowledge, a well-known strategy in contemporary art: a *production of realities*, in a constant interaction between concepts and spatial situations. As we have seen, spaces, experiences and concepts in-between cannot be defined ahead of the rhythmic process they carry out and of which they are a part. This rhythm is inherent in the process of the city itself and in knowledge production, carrying the rhythmic interaction between the bodies and their environment. It is a rhythm of difference, between planning and self-organisation, between the ideal and the possible. This is how the in-between creates a rhythmic movement of back and forth, a territory between chaos and order, a space containing unlimited *potential realities*.

Keywords: in-between, experiment, dispersed production, producer/observer, bridge, swing, Penelope, weaving, walking, mapping, acting physics, CERN, Atlas, body/machine, technological sublime, potential reality