PERCEPTION in Architecture
Definitions of space are as diverse as the disciplines in which it plays a fundamental role; from science and philosophy to art and architecture, each field’s perception of space is often simplified or reduced. This consequently denies us access to “new spaces,” whose definitions and perspectives, strategies and impacts on human perception are rarely considered in any cohesive manner. The symposium “PERCEPTION in Architecture. HERE and NOW” invited critical and comprehensive contributions by academics, artists, architects, designers, urban activists and curators to reflect upon new spatial concepts and thus access new spaces of definitions and perspectives, strategies and processes of perception in architecture.
# Table of Contents

Introduction to New Spaces in Architecture.................................................. viii
Claudia Perren and Miriam Mlecek

**Chapter One: SPACES turned**

Derealisation, Perception and Site: Some Notes on the Doppelgänger Space .......................................................... 2
Thea Brejzek and Lawrence Wallen

Spatial Turn – Perception in Architecture ................................................. 11
Annett Zinsmeister

Making Sense of Intensities....................................................................... 22
Arnaud Hendrickx

**Chapter Two: beyond PERCEPTION**

An Architecture below Perception............................................................. 30
Chris Smith

Naturalising Space..................................................................................... 38
Tim Ireland

Unnoticed – The Impact of Spatial Languages through Implicit Visual Perception.................................................. 47
Matthias Ballestrem

**Chapter Three: DIALOGUES proposed**

Immediacies of Experience: Textile Spaces —
Spaces of Communication......................................................................... 58
Gabi Schillig

The Space of the Book............................................................................... 70
Marian Macken
Manipulations in Imagined Space ......................................................... 78
Holger Schurk

Chapter Four: urban ACTION

PublicActs: Enquiries and Speculations into Johannesburg's Emergent Public Realm ............................................................................................................. 88
Katharina Rohde and Thireshen Govender

Squatted Space: From the Other to the Subject of Uttered Speech .......... 96
Rena Tavernaraki

Beyond Dualities: Gender and the Possibilities of “Other” Spaces......... 110
Anna Papadopoulou

Chapter Five: sensual IMMERSION

Perceiving Atmospheres: A Phenomenological Exploration................. 118
Malte Wagenfeld

Sensory Modulation: “Snoezelen” in Architecture................................. 135
Lindsay Webb

Fields of Sensation: Human Action and Interaction in Sensory Spatial Design ............................................................................................................. 144
Gabriele Fowler

From Perceptual Apparatus to Immersive Field of Experience:
Notes on Atmospheric Perception ............................................................ 152
Izabela Wieczorek

Chapter Six: experimental LENSES

Inflection ................................................................................................ 164
Suzie Attiwill

(Re)presenting Embodied Inhabitation Perception of Contemporary Designed Public Space ................................................................. 171
Isun Kazerani
Reflections

Perception Beyond Materiality; or, a Transcendental Glimpse of Architectural Space ......................................................... 196
Yannis Zavoleas

Contributors ................................................................................................................................................................. 207
INTRODUCTION TO NEW SPACES IN ARCHITECTURE

CLAUDIA PERREN AND MIRIAM MLECEK

“... one was to experiment in the here and now: thus life was a perceptual experience.”
— Dan Graham, 1999

The implicit nature of our daily surroundings often impedes individual perception. The shortage of learnt parameters, units of value and knowledge around spatial relationships and form making creates the basis for uncertainty in times of change and in urban decision-making processes. The creeping privatisation of public space, the loss of common ground, issues of territory and privacy as well as the question of who determines and designs the physical and virtual realms increasingly escape the individual as well as the collective consciousness.

The definitions of space are as diverse as the disciplines in which it plays a fundamental role. In science, space is the “container” in which all physical occurrences play out. From human experience, one has always “known” what space is, for example its determination by dimensions. In philosophy and sociology, it has been possible for some time to observe a renewed interest in spatial questions. In contrast, the responses of the art world to the “spatial turn” of related disciplines have been comparatively restrained. Especially with sculpture — which during the second modernism experienced an incomparable spatial expansion with the creation of whole environments, installations, land art and art in urban contexts — there arose the opportunity to conceive of the production of space as a particular kind of aesthetic meaning. The consideration of spatial compositions could at this point open the way to as yet unexplored layers of meaning and examine the fundamental conditions of artistic creation — how an artwork relates to space and time, categories that are simultaneously the basis of human perception. The arts are intensively and broadly concerned with spatial problems, but if one looks for a further
extraction or connection to a new platform, one is met with unsatisfying research.

Space is on one hand the defining organisational model that places all things in relation to each other but which, on a completely different level, can also appear “empty.” This paradox highlights the differing perspectives at play. In architecture, three-dimensional Euclidean space is the primary medium. The definition, dimensioning, organisation, construction and formal design of space are the most important tasks of architecture. Increasingly however, fluid spaces and transitions are being purposely created.

We aimed to apply such a “flow” to interdisciplinary approaches to space, countering the fact that assessments of space are often simplified or reduced to one dimension within an individual discipline. With such an approach, we refuse ourselves access to “new spaces,” whose definitions and perspectives, strategies and processes of perception from all fields of human activity are too rarely considered in a cohesive manner. The economic efficiency that is strived for through job specialisation impedes a social view of the big picture, which is essential in an increasingly international, technical and communication-reliant world in order to flexibly confront the challenges of the future.

Together with our partners, the Aedes Network Campus (ANCB) and the University of Sydney (USYD), the symposium “PERCEPTION in Architecture. HERE and NOW” invited critical and comprehensive contributions by academics, artists, architects, designers, urban activists and curators to reflect upon new spatial concepts and thus access “new spaces” of definitions and perspectives, strategies and processes of perception in architecture.

The symposium was part of the ANCB programme “No Space Without Traits,” which is looking at artistic approaches, to open doors into spatial worlds that until now have remained closed, and enabling investigations that apply alternative methodologies, practices and objectives from within art and science based on creative, behavioural and cultural positions. The aim of the symposium was to stimulate a discourse on themes such as space as a collective entity, multiplicity of experience, notions of spatial truth, individual perception and the “Other” as well as physical, visual, acoustic and virtual manifestations of space in relation to social, cultural, historical and political forces.
We received 46 abstracts from 24 countries. All proposed abstracts and full papers were assessed through a double-blind peer-review process, which led to a shortlist of 29 speakers. The selected 18 speakers were arranged into six panels, with three presenters each. The topics were structured according to the following keywords:

SPACES turned

beyond PERCEPTION

DIALOGUES proposed

urban ACTION

Sensual IMMERSION

experimental LENSES

Each panel created a dialogue among the three presenters as well as with the audience and identified various topics to extract and to further examine through synergies that developed in the course of the discussions. Every presentation illustrated new thematic areas to generate fresh questions and fields of action.

This publication documents the many different paths undertaken by the symposiums’ participants, opening a great variety of new spaces for architecture on spatial turns and doppelganger spaces; constructing experiences and manipulating imagined spaces, atmospheric perception and public action; and furthering discussion on an architecture of intensities, an architecture below perception, an architecture of performance, the spatiality of organisms, perceptual apparatuses and experimental lenses in architecture.

“Everything is, I believe situated within a process — everything is in motion, with a faster or slower speed … it is … applicable when we are dealing with something personal such as how we perceive a given space, right here and now, or how we will be interacting with another person tomorrow.”

— Olafur Eliasson, Vibrations?, 2006
CHAPTER ONE:

SPACES TURNED
DEREALISATION, PERCEPTION AND SITE:
SOME NOTES ON THE DOPPELGÄNGER SPACE

THEA BREJZEK AND LAWRENCE WALLEN

On the topography of the double

The brothers Grimm, in their *German Dictionary* from 1838, offer the intriguing definition of the term *Doppelgänger* as someone who “is thought to be able to show himself at the same time in two different places.” This definition is interesting as it defies the popular notion of the doppelgänger as someone who looks exactly like another person, that is, someone’s twin or double. Rather than focus on the physiognomic aspects of the doppelgänger, Jacob and Wilhelm Grimm’s dictionary entry proposes a topological definition that speaks of a person who is present and is seen in two different ways simultaneously.

This paper follows Grimm’s initial orientation but turns it on its head by considering the doppelgänger phenomenon from the perspective of site, thus discussing *buildings that show themselves in two different places* and expanding the field of observation to include *buildings that show themselves in two different places at different times*. The phenomenon of the architectural double is investigated here in relation to “what it does” rather than “what it is,” taking a cue, again, from the word itself. The German “doppelt gehen” is the equivalent of the English “double walking.” Rather than “doppelt sein” (“to be double”), the doppelgänger implies the action of walking, thus suggesting that a performative element is bound to the very existence of the double. The perception of the architectural double, with perception understood here as an active and cognitive process of our *sense-making* of the world, merges into the pronounced experience of a split presence where the architectural doppelgängers are neither identical twins nor complete reconstructions, defined by difference and, possibly, constructed across several sites and temporalities.
Always “self” and “other,” the architectural double provokes and enables new and complex relationships between subject, site and sight, interrogated here through a reading of an incidental and largely overlooked Freudian text from 1936 and a reading that aims to understand built form through a performance paradigm.

An understanding of the architectural doppelgänger through Freud’s concept of derealisation or autoscopy, where the subject splits into self and other and observes itself in the act of observation, reveals complex interconnections between site and sight in the perception of both double and self as refracted and destabilised. Standing on the Acropolis in 1904 for the first time, Freud, rather than finding himself overwhelmed by the beauty of the iconic building, experienced feelings of estrangement and depersonalisation: “Also existiert das alles wirklich so, wie wir es auf der Schule gelernt haben?” / “So does this all really exist like we have learned it at school?”

Freud observed himself looking at himself while both selves were at the same time looking at the Acropolis. In the case of the architectural doppelgänger, however, the Freudian autoscopic constellation is inverted — not two selves observing one building (and each other), but one self observing two buildings that in turn look at each other. This inversion, concerning the direction of the gaze between observer and building(s) continues when focussing on the question of the stability of the self (identity). While Freud, as “self” and “other,” has temporarily, for the duration of the Acropolis episode, transcended a stable identity, the Acropolis, as first seen by the young Freud in 1904, certainly had a single, stable identity (presence).

2 Freud, “Eine Erinnerungsstoerung auf der Akropolis.” See also, Le Corbusier’s description of the Parthenon as “a machine for stirring emotions” in Vers une architecture (1923).
On the dislocation and translocation of site

Bernard Tschumi’s *New Acropolis Museum* (2009) extends Freud’s uncanny autoscopic episode from the singular experiencing subject to that of the visitor looking at two buildings that in turn look at each other. Located opposite each other, with the Theatre of Dionysus at the centre, the Acropolis (Parthenon) and the New Museum are locked in a constant gaze that destabilises the (visitor’s perception of the) Acropolis’ previous singular identity of site.
This master plan shows the theatre’s central position between the Parthenon and its double, the New Acropolis Museum. Situated on the Acropolis’ southern slopes, the amphitheatre — the former Theatre of Dionysus and, later, political meeting place — was a space dedicated to fulfilling the theatrical contract of the “double act of looking,” between stage and auditorium, that enables a live performance to take place. On Tschumi’s master plan, the gaze is, surprisingly, shown as one-directional: from the top floor of the New Museum towards, but not quite reaching, the Parthenon. Theatre’s central paradigm, however — that of the two-directional gaze — is already embodied in the relationship between the Athenian architectural doppelgänger constellation. As the subject views the buildings, they look at each other, opening up the scene to a performative event between building site and viewer. The site orientation of the Dionysus theatre supports a “theatrical” reading in which the New
Museum comes to be understood as a conceptual continuation of its *skene* (stage area) and the Parthenon as an extension of its *theatron* (seating area). In equating the museum (skene) with the stage, the space of action, and the Parthenon (theatron) with the auditorium, the space of reception, the basic viewing scheme of classical theatre emerges where, simultaneously, the actors are looked at as they themselves look at each other and at the audience. A complex fabric of visual, aural and environmental communication emerges in the interaction between audiences, performer and place that is mirrored in Tschumi’s highly resolved spatial and temporal relationship between visitor and artefact, immediate site and site context.

![Fig. 1-3. View from the Dionysus Theatre to the New Museum](courtesy Lawrence Wallen)

Tschumi’s scheme identifies three layers: the base, which houses the archaeological excavations; the middle, where the main gallery is located; and the top, the location of the Parthenon hall and frieze (see Fig. 1.4). The glass box of the Parthenon hall, along with the other components of the building, reinforces the spatio-temporal duplication manifested throughout the museum (or stage) itself, whereby the interior and the exhibited...
artefacts are constructed to be active participants in the creation of the architectural doppelgänger.3

Fig. 1-4. Conceptual sketch [courtesy Bernard Tschumi Architects, New York]

---

3 See also the AA research cluster “Architectural Doppelganger,” mainly concerned with the nature of the copy and issues of copyright: pr2013.aaschool.ac.uk/RESEARCH.../Architectural-Doppelgangers (accessed 2 June 2014).
At the entrance level, visitors are immediately made aware that although they are experiencing the museum in the “here and now,” the entire building in fact floats over archaeological excavations dating back to the fourth through the seventh centuries BCE. The orientation of the entrance level is defined by the location and positioning of the ancient buildings and the urban fabric that the museum has come to replace, articulated in the built form through the use of viewing platforms and glass floors that stage the excavations as an integrated part of the architecture.

The museum’s top floor contains the most direct visual and material reference to the Parthenon and sets up the provocative architectural doubling or mirroring. On this layer, Tschumi’s scheme sees the transposition of the spatial, conceptual and compositional dimensions of the Parthenon through the translocation and reconstruction of the famed Parthenon frieze. The frieze has been reinstalled on a concrete core with the exact dimension (1 metre high and 160 metres long) and orientation of that of the cella of the original Parthenon, located some 300 metres to the northwest of the museum. The frieze’s original narrative of the Panathenaic procession is reconstructed here with original fragments and plaster replications of those blocks (marbles) now scattered among the collections of museums across Europe, after Lord Elgin violently removed large parts of the frieze between 1801 and 1805 and shipped and sold these to the British Museum. The large glass windows at this level allow uninterrupted views to the Parthenon, and the visitor finds himself immersed in a fragmented simulation of the original, itself composed partially of the original’s spolia, while the ruined original is constantly present, calmly gazing down at its contemporary double.

The New Museum itself emerges as a dual architectural double, with the original foundations exerting direct influence on the composition and orientation of Tschumi’s design. This spatial operation, which is highly sensitive to its temporal context, would initially appear to have the effect of stabilising rather than destabilising the identity of that particular space and its history. In the museum, however, the ancient ground plan is not repeated. On the contrary, the whole building twists from the localised orientation expressed at entry level to that of the Parthenon hall and its duplication of the Parthenon’s measurements. The aim of Tschumi’s strategies of layering/ floating and twisting are to reinforce the relationship between the two sites within the one structure such that circulation through the building operates as a three-dimensional loop that moves visitors through the three floors in a singular flow.
Fig. 1-5. The Parthenon hall [courtesy Bernard Tschumi Architects, New York]

Fig. 1-6. Concept sketch — Circulation [courtesy Bernard Tschumi Architects, New York]
The circulation path starts at the existing excavations, continues upwards to the Parthenon hall and then back down to the main gallery. This clearly articulated spatial narrative transports the visitor “in and through time,” from an entrance that makes the previous site visible, into a volume that duplicates an existing original and then to the Roman collection, of a much later date.

In Tschumi’s bold scheme, and unusual for a museum, the controlled artificial light installed throughout the building is far less important than the expanse of natural light that penetrates the structure through the large glass windows. The glass surfaces, major feature of the museum’s exterior, replicate the light experienced when standing at the Parthenon itself, and they direct the visitor’s gaze outwards, strengthening the visual relationship between the interior and its collection of artefacts and connecting them to the archaeological excavations that the museum floats above, across to the Acropolis and the expansive city of Athens. The intentional locationing of the artefacts as both exposed to the outside and oriented toward their place of origin, the Parthenon, representing a spatial affirmation of its historical context, speaks to the frieze’s absence (on the Parthenon) and presence (in the Parthenon hall) at the same time in a direct viewing axis. Not only is the museum a stage (the other), looked at from across the auditorium (the self), but Tschumi’s design — playing with the doubling of the building’s orientation and dimension in relation to its ancient foundations directly underneath — operates with strategies of the double within the single architectural structure.

On the performative site of difference

The Grimm brothers’ topographic definition of the doppelgänger set the scene for this observation of a dual-site architectural double. The additional consideration of Freud’s self-analysis of the splitting of self at the iconic site of the Acropolis revealed the potentiality of the architectural doppelgänger to not necessarily visually correspond with another building but to embody and be actively perceived as a performative site defined by both relatedness and difference. In this reading, both subject and buildings, locked together through the double-act of looking, are active agents in the temporary construction of a particular scene that oscillates between the material absence and presence of the frieze, a performative event subtly scripted between the “now” of Bernard Tschumi’s contemporary architecture and the “then” of the Parthenon’s archaeological artefacts.
SPATIAL TURN – PERCEPTION IN ARCHITECTURE

ANNETT ZINSMEISTER

New technologies, the consolidation of a global market, political impositions and the continuous and massive acceleration of data and information flow are changing our way of living, working, communicating and perceiving. Virtual work spaces and virtual social networks determine and control our social life in parallel worlds, change our relation to the real world and to real distances, and change our perception of space. The boundaries between private and public, interior and exterior, real and virtual space are becoming blurred.

The history of science is a history of stepping beyond our biological limits of perception, which exist due to the physical abilities of our five senses. The processing of sensual impressions constitutes a unique experience of space that is supported, expanded and also manipulated by cultural techniques. Technologies for the development of perceiver equipment that may, for example, expand our experience of space (e.g. the microscope and telescope) play the same role as technologies for accelerating movement through space as well as analogue and digital techniques for spatial representation and simulation.

Culturally shaped perception models change our understanding of space, our relationship to space and our use of space. According to Jonathan Crary, human perception is based on a culturally significant range of expertise that is changing over time and has become controlled since the invention of optical devices in the nineteenth century. Also representation techniques exert a direct influence on our views and our understanding of space. In the wake of the discovery of central perspective, it become possible for the first time to depict space in correct proportions, and as a result, the city turned into an object of art that could

be planned. Instead of symbols and pictorial formulas, a picture’s subject matter, its surface and the point of view become the basic element of a new construction of image and space. Perspective transforms the comprehension of the world into a rational, mathematical construction. Erwin Panofsky describes the construction of perspective as a cultural convention. The linear perspective turns into a symbolic form reflecting a historically conditioned worldview.\(^2\)

Cultural techniques such as techniques of observation and representation influence and direct our perception of space. I try to get to the bottom of this causal relationship in my artistic research. Here I will provide brief insight into my work and my approach to architecture in and through the medium of photography that raise the question of the relationship between artistic (re)production and the visual appearance of architecture as well as the importance of media and technological breakthroughs in the design process.

**Space production as perception machine**

Medial space productions are technical constructions of perceptibility in which the boundaries between reality and simulation, between readability and interpretation, between affects and effects of technical images become blurred. The staging of local, global and virtual spaces could also be described as real fictions or ideal realities. What kind of physiological skills are call upon in perceptual processes? What are our unconscious habits of perceiving? How and why are automatisms released? How do we distinguish real and virtual spaces? What are the roles of memory and imagination in these processes?

\(^2\) Erwin Panofsky, *Perspective as Symbolic Form*, trans. Christopher S. Wood (New York: Zone Books), 29: “For the structure of an infinite, unchangeable and homogenous space — is short, a purely mathematical space — is quite unlike the structure of psychophysiological space: Perception does not know the concept of infinity; from the very outset it is confirmed within certain spatial limits imposed by our faculty of perception.” Samuel Edgerton understands the discovery of central perspective not only as an objectification of a physically explorable environment, but also as a mediator between two worldviews, a mathematical and mystical space and world order: “perspectival constructions […] originally had the duty not only to objectify the sensual experience environment, but also to emphasize the allegorical, moral and mystical message of the holy Scripture.” Samuel Edgerton, *The Renaissance Rediscovery of Linear Perspective* (New York: Basic Books, 1975).
I am interested in the possibilities and limits of imaging construction in relation to our visual perception. Photography is a central tool in my search for answers. Initially it was a documentary research tool and then it became an artistic medium of representation and expression. Photography is the most important medium for the visual representation of the living world and facilitates imaging the existing and the imagined.

The best way to describe my artistic approach in dealing with perception in architecture is to introduce a few, select experimental projects in which facades play a central role. Facades define spatial and visual boundaries and are the most memorable elements of architecture in public spaces. In modern times, the facade lost its importance as an independent, artistic building component and became an equivalent or subordinate part of the functional whole. Concise structural evidence of this can be seen in the concrete slab buildings, so-called Plattenbau, a mass socialist architecture in different forms in the former Eastern bloc countries. These buildings frame the urban space in large residential areas not as a result of design considerations, but industrial production technology. The Plattenbau facade is constructive and decorative at the same time. The calculus of...
efficiency becomes evident in its endless repetition, oscillating between deterrence and fascination.

Scientific research and studies of the environment, such as mapping, photography and recording, mark the first step of my artistic investigations of space. I try to discover and unsheathe structures and patterns, understanding them as spatial codes. Like Roland Barthes’ definition of structural practice, I disassemble these detected urban codes and spatial elements and rebuild or sample them in different, creative ways to learn about the relevance of the spatial system, the composition model and the complexity of the complete texture and structure of the investigated architecture.

Fig. 1-8. Annett Zinsmeister (2005), Outside-in, installation, Schloss Solitude, Stuttgart [© Annett Zinsmeister, VG Bildkunst]

In a second step I interpret, in the spirit of the modular mass architecture itself, documentary photographs of Plattenbau as “medial modules” and assemble them into large, facade images and wallpaper to cover existing interiors. The strong spatial effects of these experimental installations, Outside-in, lead to a borderline experience for visitors through the confrontation of two extreme effects: the brutality of endless repetition and the fascinating aesthetics of structural and serial patterns. These architectural invaginations of facades into interior spaces are contradictory to our use and knowledge of architecture and offer new spaces of perceptual experience.

In the installations Virtual Interior, the prefabricated facade becomes a descriptive space element of an absolute space, in which top and bottom, interior and exterior can no longer be distinguished. The result is a double intersection of outside and inside — a rolled back inside of the outer space without interior. Interestingly, this is less a spatial installation than a visual construction. From the opposite side of the street, the central perspective illusion is perfect. As a (re)construction of facade elements, the simulated
hybrid of interior and exterior become part of the building facade as well as a temporary event in urban space.

Through these invaginations of exteriors in interiors, specific effects of mass architecture are scaled, condensed and pushed to extremes. New perspectives, surreal spatial impressions and spatial irritations emerge and blur the boundary between outside and inside, between private and public. The installations oscillate between photographic document and artistic artefact, between authenticity and deception. Architecture here occurs ambiguously as real and virtual at the same time.

Fig. 1-13. Annett Zinsmeister (2010), *Outside-in*, installation, private garden, Hansaviertel, Berlin, 2010 [© Annett Zinsmeister, VG Bildkunst]

(No) Space without traits

The *Urban Hacking / Container Project* examines the meaning of localization and ou-topos of architecture as well as its traits. What do spatial identification and home mean in a globalized world characterized by a high degree of flexibility and exchangeability? What are the features and specifications of an architecture that works without spatial association? My photographic research in different places around the world is an attempt to better grasp the particular, the treasure, the identity of spaces, places, cities, especially of those that seem to be inhospitable or nonspecific at first sight.
The work *Urban Hacking* consists of photographs of urban facade elements taken in different cities, countries and continents that I then used as modular elements for the construction of a virtual space in the interior of a container. The container is a serial architecture that has no specific place and temporarily holds a place in different places around the world. It is used for the international flow and exchange of goods and culture.
The visitor enters a darkened container and perceives a protuberance of constantly changing interiors. Floor, ceiling, walls cannot be distinguished materially or visually in their specific properties. The changing surfaces seem to develop a life of their own, beyond cultural boundaries: Ornamental structures appear and seem reminiscent of Arab culture, but then change their physical appearance into concrete elements via glass bricks to wood siding, in which the observer believes he or she recognizes alpine building materials. These associations send viewers on an imaginary journey around the globe, led by their own memories. It