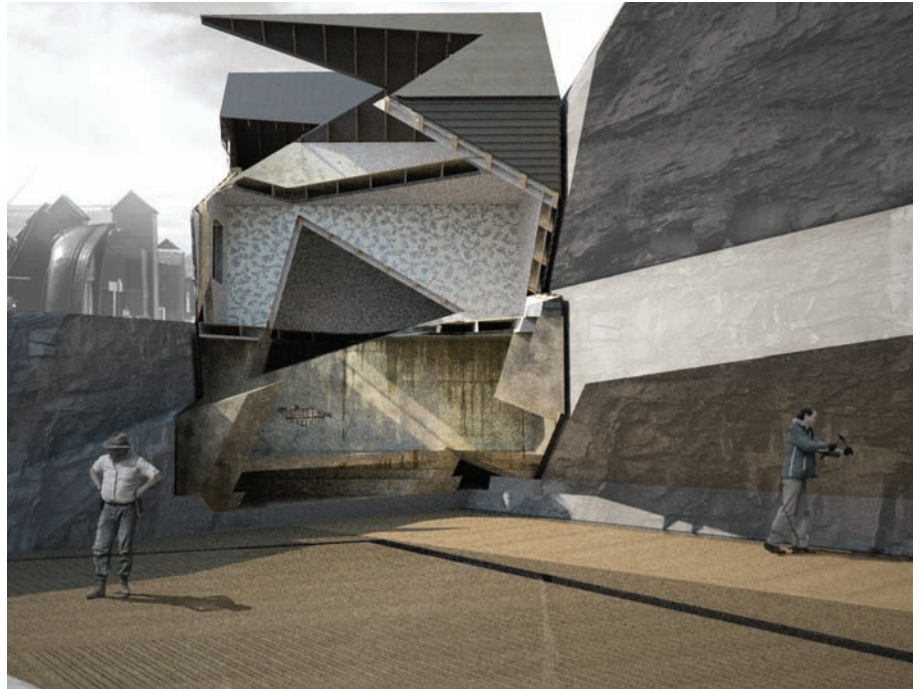


AA Diploma Unit 1 2009/2010  
Marianne Mueller, Olaf Kneer

## Mineral Architecture



### Mineral Manifesto

Not quite a century ago the Crystal Chain Group led by Bruno Taut sought to give physical form to their mythical believe in a new type of architecture, and with it a new society. Their symbol was the crystal, their vision an earthly paradise founded on a new architecture of colour and glass.

Moving up to Diploma School, Unit 1 continues its search for a mineral architecture that is socially and experientially relevant. This year we will attempt to write the genealogy of mineral manifestos and position ours within it. Navigating between utopian models and the realities of building we will explore how this approach can challenge spatial and material conventions and radicalises architecture.

### Post-geometric rigor

The current preference for complex geometries often provides structures but not necessarily spaces. The unit focuses on the relevance of form making as articulating relationships between physical formations and human processes.

We will work with mapping, scripting and modelling of crystalline properties which will provide us with a reservoir of formal and material systems. Empirical experimentation will help to exploit their habits and capacities to produce physical and sensory effects. We will work obsessively to capture and control these and re-introduce such forgotten modes of representation as the measured drawing. Physical and digital models utilising boolean operations will explore ideas of solids, mass, interiority and envelope.

### New monoliths and other autonomies

Searching for an architecture of solidity, economy of form and construction, the unit focuses on monolithic construction and single material articulations. Grounded yet autonomous, the monolith radicalises ideas of programme and context. Mineral matter, silicates, clays, gypsum and amorphous solids are going to form the technical focus for the year, initiating a research into constructional consequences.

Students are expected to work through a single building proposal for a public building coherently throughout the year. We will involve specialists from geology, crystallography, neuroscience and contemporary art to further the agenda across professional boundaries.

*aadip1.net*

*Marianne Mueller and Olaf Kneer are directors of Mueller Kneer Associates, currently working on a number of buildings for the arts and community. The practice's work has been recognised through a number of awards including the 'AJ Corus 40 under 40'. Marianne and Olaf are also Programme Directors of AA Berlin Laboratory and curators of the new 'Concrete Geometries' Research Cluster, starting in autumn 2009.*

*muellerkneer.com  
concrete-geometries.net*

## Outline Timetable and Briefs, Term 1 – 3, 2009/2010

### Term 1

#### Research/Brief 1: **Mineral Manifestations**

(week 1 & 2)

During the first weeks of the term we will initiate a research into theories and concepts that are at the core of the unit's agenda. Starting from a number of articles and manifestos from the realm of architecture, art and science, students will work in research groups following four parallel strands of investigation. The areas of research are:

- 1 *The Politics of Aesthetics*
- 2 *Objectivity is Romantic*
- 3 *Mineral Utopias*
- 4 *Monoliths and other Autonomies*

Throughout the first term, each of these research groups will hold a seminar presenting their ongoing research. The initial phase will be accompanied by visits to the Natural History Museum Minerals Collection and Frieze Art Fair.

*Collaborators / Input:*

- + *Peter Tandy, Minerals Curator, Natural History Museum*
- + *Daniel McClean, Contemporary Art Curator tbc*

#### Brief 2: **Crystalline Systems and Symmetries**

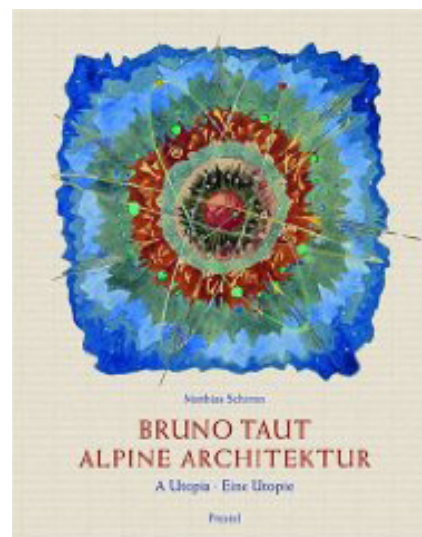
(week 3-6)

Through workshops and seminars, this phase introduces into key techniques used by the unit: the logics of crystalline systems and their symmetry behaviour. In crystalline structures the constituent atoms, molecules or ions are packed in a regularly ordered, repeating pattern extending in all three dimensions. Despite their seemingly limitless shapes, all crystals belong to one of only seven classifications of symmetry.

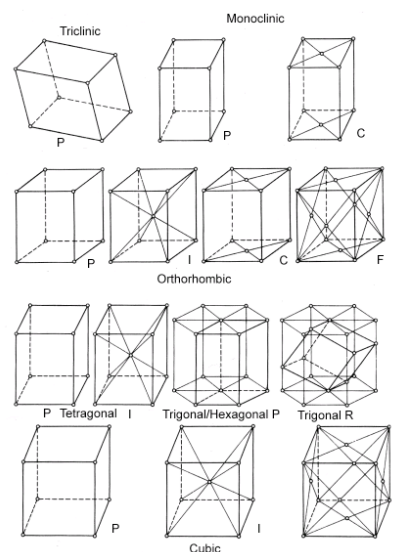
This year, we will have inputs into crystallographic mathematics, with a particular focus on the role of symmetry within crystalline growth. Through measuring, drawing and modelling of actual specimen, students learn to produce precise descriptions of the 'geometric habits' and 'behaviours' of such systems as well as speculating about the underlying principles that shape them. Applying them in scripts, students will first simulate crystalline growth in an abstract and controlled environment, and later manipulate it generating new crystalline forms. The aim is to develop an understanding and control of the 'habitual' logics of these types of systems, build a vocabulary of modes of description and analysis and advance these into tools for further use. This will involve virtual and physical modelling and will be backed up through further reading.

*Collaborators / Input:*

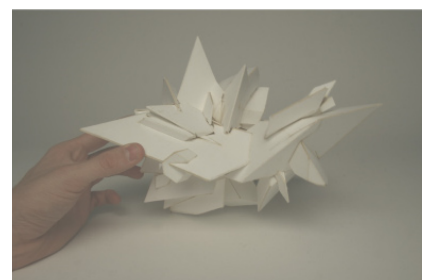
- + *Toni Kotnik, Crystalline Geometries*
- + *Research group presentation: 'Objectivity is romantic'*



Bruno Taut: Alpine Architektur, 1917



The seven Crystal Systems



Alexander Laing, Inter 1 2008/09  
Model of a Calcite Pseudomorph

### Brief 3: **Unit Trip: Monolithic Architecture / Lost Palace** (week 6)

*“Architecture is not organic; it is designed...Architecture is not integrated with the site; it remains autonomous, and its relation to the landscape is based upon its quality and size...architecture has to...dominate the site, become the equivalent of a natural relief.” Claude Parrent*

In week 6, the unit will embark on their trip to mainland Europe in search for a contemporary monolithic architecture. Roaming suburbia in the area around the French-German border, we will encounter the exquisite but relatively unknown work of German architect and Pritzker Prize winner Gottfried Böhm, the bold experiments of French architect Claude Parrent in collaboration with philosopher Paul Virilio and other examples of strangely autonomous but powerfully present architectural monoliths.

+ *Research group presentation: ‘Monoliths and other Autonomies’*

In Berlin we will engage in the debate around the demolished ‘Palast der Republik’ and subsequent void left in the city. The ‘Palace of the Republic’ opened in 1976 as a ‘Palace for the People’, a truly utopian civic building created for the celebration and amusement of ordinary (East)-Berliners uniting art, culture, entertainment and politics.

Abandoned with the fall of the wall in 1989 and declared unsafe soon after, it was stripped to its steel frame and left as a ruin for many years. Reinvented as ‘Zwischenpalast’ (Inbetween-Palace) by Berlin’s art and theatre scene, it’s bare frame become host to various events, attracting crowds from all over the world and campaigns for its retention as a home for the arts flared up. But the discussions about the future of the ‘Palast’ turned into a debate about the reconstruction of the widely unknown ‘Berlin Stadtschloss’, the city castle, which occupied the same site until shortly after the Second World War. The ‘Palace’s’ decline continued. Since this year, the demolition is complete and the Palace has finally vanished to make way for the highly controversial and uncertain reconstruction of the ‘Castle’.

The unit will engage by considering the loss of this utopian civic space and focus on making constructive and polemic propositions in the spirit of the ‘Palace’.

### Brief 4: **The Physics of Presence** (week 7-9)

*In scientific inquiry, an experiment (Latin: ex- periri, “to try out”) is a method of investigating particular types of research questions or solving particular types of problems. The experiment is a cornerstone in the empirical approach to acquiring deeper knowledge about the world.*

Through physical experimentation and backed up through input from external guests from science and art, this phase introduces into some key concepts of the unit such as ‘presence’, ‘reality’ and ‘engagement’.

Students are asked to investigate the *physics of presence* of their mineral specimens, experimenting with its matter: specific physical properties, the less tangible phenomena they might be associated with and the conditions under which they occur. The aim is to develop an understanding of how to control and manipulate these material systems, their potential production of presences and the subsequent relevance of a viewer / receiver within this system.



Gottfried Böhm, Maria Königin des Friedens, Neuges



The Palace of the Republic in 1988



Site of the demolished Palace in 2009



Robert Smithson, Four-sided vortex

This phase will initiate a broader debate about issues of perception and questions of reality. It will ultimately lead to the construction of 'presences', be they physical or immaterial.

*Collaborators / Input:*

- + Jean-Pascal Flavien, artist, Berlin
- + Dr Beau Lotto, Reader in neuroscience and head of lottolab at UCL and co-author of 'Why we see what we do'
- + Research group presentation: 'The Politics of Aesthetics'

### Brief 5a: **Your Mineral Manifesto / utopia** (week 9-12)

The final brief of the term challenges students to commit to an individual *thesis* or *statement of intent* speculating on the architectural potential of both the geometrical and phenomenological approach in defining a new civic and monolithic architecture. This can involve utopian dreams, mythical exaggerations and also consideration of concrete applications. Students will be asked to present this at the final jury of the term in form of an illustrated (drawn, modelled) manifesto and dictionary of terms.

- + Research group presentation: 'Mineral Utopias'

## Term 2

### Brief 6: **New Civic Building for Berlin** (week 1-10)

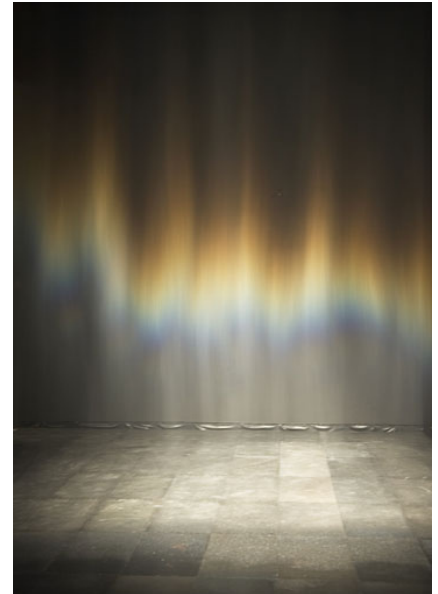
In search for an architecture that is socially and experientially relevant, the unit will make propositions for new civic buildings in Berlin utilising the tools developed in term 1.

### Brief 6a: **Concrete Geometries**

In this step, the developed geometric systems are being subjected to the specific conditions of a site, programme and the aspirations of a manifesto. Organisational orders and relationships need to be re-considered, tested and questioned, options explored through modelling and analysing. Focusing strongly on boolean operations this year, the unit will explore volumetric ways of working, using union, intersection, cutting and separating as modes of evolving these geometries ultimately into sets of spaces.

Shifting from the geometrical to the spatial, new questions arise. While complex geometries might easily provide structures, they do not necessarily produce meaningful spaces. Within this phase, students will be asked to critically assess the relevance of their form production as articulating relationships between physical formations and human processes. What are the relationships set up between geometry and perception or geometry and social organisation? How are these experiments relevant to as site for human interaction and bodily experience? How can these geometries become spaces that are socially active or experientially relevant?

- + This phase of the work will run in parallel with the 'Concrete Geometries' Research Cluster Symposium, Exhibition & Public Experiments curated by Marianne Mueller and Olaf Kneer in spring 2010.



Olafur Eliasson, Minding the world



Ji In Kim, Inter 1 2008/09



Ji In Kim, Inter 1 2008/09  
Illusionistic Building for the Arts, Hastings



Young People's Forum, Palace of the Republic

## Brief 6b: Material Presences

Critic Kenneth Frampton divides built form into two separate material procedures: the *tectonics* of the frame and the *stereotomics* of compressive mass from the Greek term for solid, *stereos* and cutting, *-tomia*. The unit commits to a '*stereotomic*' approach of building, advocating an extreme economy and consistency of both construction and appearance. With this, the unit rejects a component based approach to design, in favour of 'plastic' ways of articulating material presences.

Taking on board the research and experimentation of the first term, mineral matter such as silicates, clays, gypsum and amorphous solids are going to form our material reservoir for building. Students are asked to explore material qualities and resulting ephemeral effects and understand their reception by a viewer / user. Students are asked to consider the 'Reality' of their material approach in relation to scale, setting, impact and economy. This research will form the basis for the Technical Studies submission.

*Collaborators / Input:*

+ *Technical Studies Team.*

## Brief 7: Your Mineral Architecture (week 8-10)

While working through a concrete proposition for a new civic building in Berlin, the last brief asks for the re-organisation of the project into an overall thesis. This includes the resolution of the project at an urban and building scale as well as the formulation of an architectural stance in relation to the issues raised by the unit. What is your Mineral Manifesto? How does it radicalise architecture? Which conventions are being challenged? What are the consequences of your mineral agenda?

+ *There might be an optional second trip to Berlin in February.*

## Term 3:

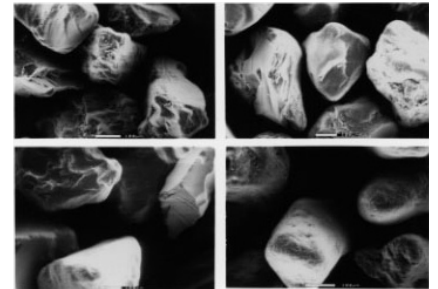
Term 3 will be used to review, fine tune and reformat the project in preparation for the Final Presentations.

For further information and announcements, see

[www.aadip1.net](http://www.aadip1.net)



The Surface of Dust



Sound reducing Sand



(Brian) Hwui Zhi Cheng, Inter 1 2008/09  
Proposal for a Communal Building, Hastings



## Mineral Architecture 2009/10: **Preliminary Reading List**

### **Physics of Presence:**

archPlus 178: Die Produktion von Präsenz

Jacques Rancier. Politics of Aesthetics

Peter Selz. Theories and Documents of Contemporary Art

Robert Smithson: Robert Smithson, 2004

Jack Flam: Robert Smithson : the collected writings / edited by Jack Flam, 1996

Olafur Eliasson: Olafur Eliasson: A laboratory of mediating space, 2006

Olafur Eliasson: Your engagement has consequences:  
on the relativity of your reality, 2006

Olafur Eliasson: Minding the world, 2004

### **Objectivity is romantic:**

Peter Weibl. Olafur Eliasson, surroundings surrounded: essays on space and science, 2001

Dale Purves and R. Beau Lotto: Why We See What We Do:  
An Empirical Theory of Vision, 2003

M. Fieder, K. Grammer, G. Ronzal & R. Thornhill: Averageness and Symmetry:  
The Assessment of Beauty.

Charles Jencks: What is beauty? Prospect Magazine, August/September 2001

H. Weyl: Symmetry. Princeton: Princeton University Press, 1952

### **Mineral Utopias:**

Iain Boyd Whyte: Crystal chain letters: architectural fantasies by Bruno Taut  
and his circle, The MIT Press, 1985

Ed. SCHIRREN, Matthias. Bruno Taut : alpine architektur : eine utopie = a utopia  
2004

Peter Blundell Jones, Hans Scharoun, Phaidon Press, London 1995

Hans Scharoun: The Berlin Philharmonic Concert Hall, Berlin, West Germany,  
1956, 1960-63

### **Monoliths and other autonomies**

Function of the oblique: the architecture of Claude Parent and Paul Virilio  
1963-1969, AA Publications, 1996

Paul Virilio: Bunker archeology, Princeton Architectural Press, 1994

Rodolfo Machado: Monolithic architecture, Prestel, 1995.

Irene Scalbert: Right to difference: the architecture of Jean Renaudie,  
Architectural Association, 2004.

## Mineral Architecture 2008/2009: **Reading List**

### Geology:

MALTMAN, Alex. *Geological maps : an introduction*, 1999

Bernhard Edmaier: *'Earthsong'*, Phaidon Press, London 1995

MERKEL, Klaus. *Album of the stones : the 'no longer' of the work of art and the 'not yet' of the work of nature*

### Expressionism:

Bruno Taut : *alpine architektur : eine utopie = a utopia*  
Ed. SCHIRREN, Matthias. 2004

WHYTE, Iain Boyd. *Crystal chain letters: architectural fantasies by Bruno Taut and his circle*, 1985

Peter Blundell Jones, Hans Scharoun, Phaidon Press, London 1995

Hans Scharoun: *The Berlin Philharmonic Concert Hall, Berlin, West Germany, 1956, 1960-63 / text by Hiroshi Sasaki ; edited and photographed by Yukio Futagawa*, 1973

### Constructivism:

PALLASMAA, Juhani. *Melnikov house, Moscow (1927 - 1929) : Konstantin Melnikov*, 1996

Naum Gabo: *sixty years of constructivism*, 1987

LODDER, Christina. *Russian constructivism*, 1983

### Theory:

John Rajchman, *Constructions, Writing Architecture Series, The MIT Press*, 1998

Dale Purves and R. Beau Lotto, *Why We See What We Do: An Empirical Theory of Vision*, 2003  
WEIBEL, Peter. *Olafur Eliasson : surroundings surrounded : essays on space and science*, 2001

### Arists:

SMITHSON, Robert. *Robert Smithson*, 2004

FLAM, Jack. *Robert Smithson : the collected writings / edited by Jack Flam*, 1996

OBRIST, Hans-Ulrich. *Thomas Demand*, 2007

OLAFUR ELIASSON. *Olafur Eliasson : A laboratory of mediating space*, 2006

OLAFUR ELIASSON. *Serpentine Gallery Pavilion 2007 : Olafur Eliasson and Kjetil Thorsen*, 2007

OLAFUR ELIASSON. *Your engagement has consequences : on the relativity of your reality*, 2006

OLAFUR ELIASSON. *Minding the world*, 2004

OLAFUR ELIASSON. *Your lighthouse : works with light 1991-2004*, 2004

### Novels:

Edwin A. Abbot. *Flatland*, Dover Publications Inc, New York, 1992

J.G. Ballard. *The Crystal World*, 1966