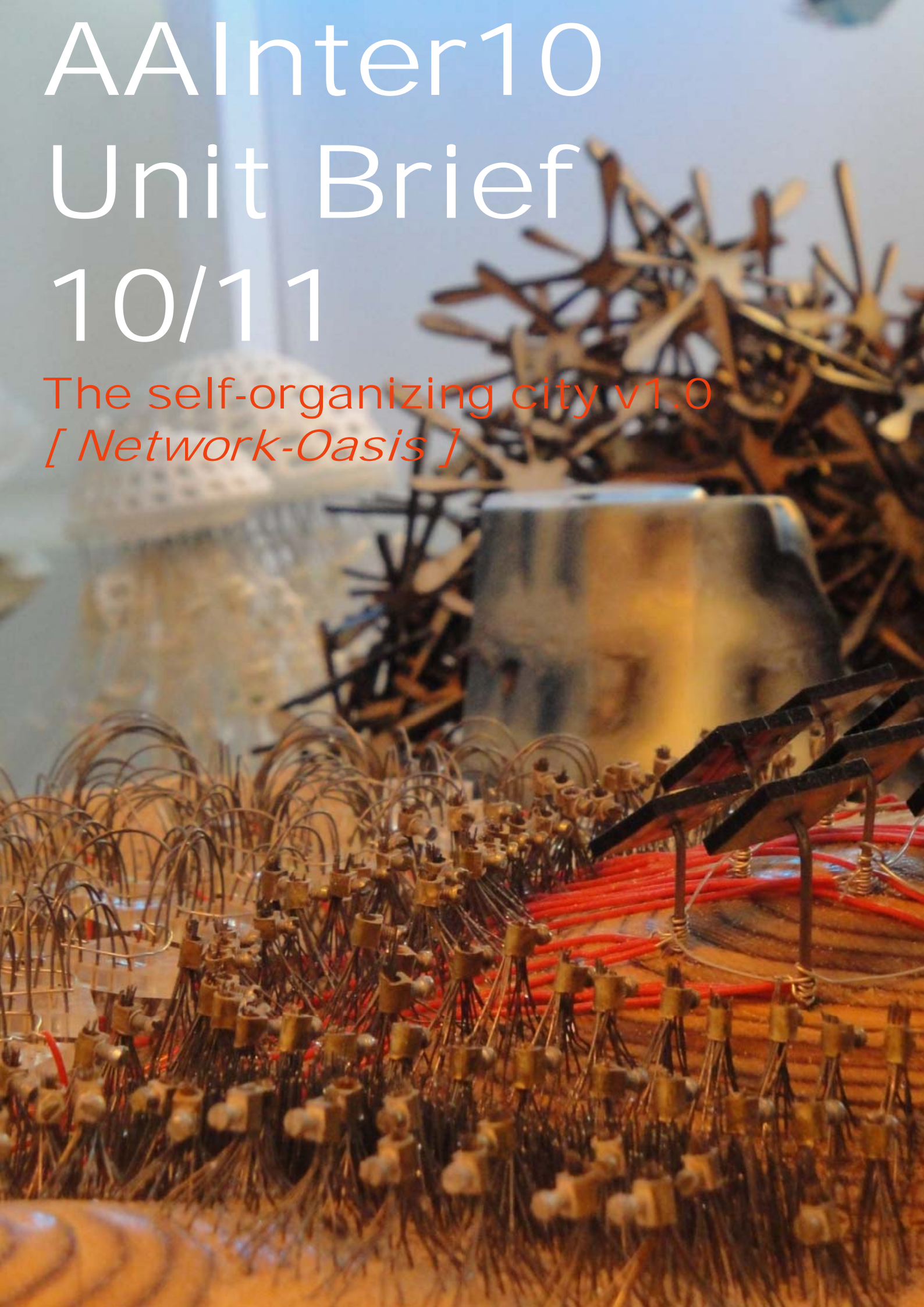


# AAInter10 Unit Brief 10/11

The self-organizing city v1.0  
*[ Network-Oasis ]*



# The Self-Organizing City v1.0

## Network Oasis [NO]

Unit staff:

Claudia Pasquero + Marco Poletto

### THE AGENDA:

The current era is characterized by intense human flows on a global scale; this form of “nomadism” responds to the necessities and desires of the global population seeking better living conditions and escaping local conflicts and catastrophes. Nodes of this dense network are the global metropolis, particularly the fast growing ones emerging in the Far and Middle East. The social ecologies that emerge within these urban environments are typically “far from equilibrium”, i.e. exhibit characteristics of unpredictability and non-linearity that make very difficult their understanding, let alone their planning and control; the discipline of architecture has yet to search and formulate typologies capable of cultivating this emergent social capital, turning it into diversity and richness for the future of our global society; however the development of these new proto-architectures is of major interest as cities seem to be on desperate need of finding new centres of social exchange where new social structures could be forged. Shopping malls and, in the Middle

East, the Souks are the urban types that typically function as contemporary social incubators; indeed we find curious examples of typological hybridisation but more radical solutions seem necessary to liberate new latent mechanisms of socio-cultural transformation. Inter 10 seeks to breed these solutions as the new architectural nodes of what we call the “Self-organizing Cities”. **Old and new nomadic practices**, and the mechanisms that move them, will be our instruments of research and of material experimentation.

## **BRIEFing:**

**THE BRIEF:** This year INTER10 will return to the Arabic peninsula to develop Network-Oasis [NO], *self-organizing trading Hubs* for the 21<sup>st</sup> century Emirati metropolis.

As building prototypes the [NO] will support the redistribution of locally grown products and imported merchandize like in the traditional souks, while promoting social interaction and experimentation like in contemporary malls; as models of architecture of self-organization the [NO] will attempt to spatially organize and temporally balance these processes to achieve symbiotic urban growth and promote increasing differentiation of social spaces.

Resurfacing from last year's coral reefs we will head inland, within one of the largest, most desolated and fascinating deserts on earth, the Rub Al Khali. While travelling on the footsteps of the Bedouins we will learn how their nomadic practices did function as mechanisms of adaptation to and inhabitation of such an extreme environment while, on a different scale, producing a distributed urban network that had in the Oasis its trading hubs. The contemporary relevance of these practices will be investigated in a first workshop that will engage with the re-production of Constant's nomadic utopia: New Babylon. A second workshop will then introduce parametric drawing techniques and the fabrication of physical experimental models; this design *apparatus* will allow the simulation of patterns of self-organization and the control and visualization of emergent urban networks.

The "souks", the Oasis trading markets, were the heart of this dynamic and diffused

urban model, the places where flows of goods, social information and environmental energy were exchanged and regulated; term2 will be devoted to the design of a contemporary version of the "Souk" or "Mall".

Architectural speculations will focus on the material, spatial and temporal articulation of these machines for social exchange and participation; 1:200 plans and detail drawings will form the basis to investigate the critical intersection of the emergent Network-Oasis with the existing urban fabric. Term3 will be entirely dedicated to the production of a final physical model of the Network - Oasis operating within its context.

**THE CONTEXT:** In term1 we will imagine and model a "nomadic" city located within the large triangular

stretch of land in-between Abu Dhabi, Al Ain and Liwa. This territory is dense of Bedouins trails as it connects the Omani coast and mountains with the Saudi desert and the coastal capital of Abu Dhabi. These relatively fertile routes are now being transformed to effectively connect the growing population of Dubai and Abu Dhabi with the oasis cities of Al Ain and Liwa; these represent two of the main internal settlement and the main cultural and agricultural strongholds in the Emirates. Populating and structuring this territory will be our first exercise in "nomadic urbanization".

The city will be narrated as a contemporary interpretation of the Utopia of "New Babylon" by Constant Nieuwenhuys while its emerging structures will be simulated algorithmically and represented with digital parametric drawings and videos.

"New Babylon" is the extraordinary tale of a global city devoted to playfulness and creativity, the product of an hyper connected society who has reached freedom thanks to its extraordinary apparatus of mechanical devices who handle all the hard and productive work necessary to the maintenance of this "ludic" population.

In term2 a specific node, or trading hub, of the city will be developed and designed; the new hub will be located in substitution of an existing souk or mall sited in the Oasis of Al Ain or Liwa, or will constitute a new link within their existing trading network.

**THE SITE/THE CLIENT:** With the support of the British University in Dubai and the Dubai based architecture and engineering firm Atkins [the designers of the Burj Al Arab hotel] we will be developing a detailed programmatic brief for the Network Oasis and interview clients and developers working on various sites within our design region. This work will inform the second term design development.

### **THE METHOD:**

**THE DRAWINGS:** Working in Groups of three, students will in the first term use 2D hand or digital drawings to map, diagram and describe nomadic behaviour and practices; source material will be the Bedouin traditions and network in the UAE region and the tale of New Babylon.

This first set of drawings will serve as the base for the modelling and design of the Nomadic City project that will take place in the second part of term1 with the aid of algorithmic modelling techniques to achieve higher degrees of control and articulation of the models in relationship to the project site and brief. From these models a set of fabrication drawings will be extracted to construct the experimental prototypes. In term2 drawings will reach the 1:200 scale with details of prototypical components drawn in 1:10. From this set a fabrication layouts will be extracted to produce the final third term model.

**THE PROTOTYPES:** Inter10 models are not representational “maquettes” but are fabricated and deployed as tools of experimentation; we treat them as generative prototypes enabling us to understand and “cultivate” new social ecologies and related spaces. Their deployment will enable us to conceive our final architectural proposals as relational ecologies, where the generative forces of life play an active role in the shaping of space and spatial effects. Two main prototypes will be developed, one in the first term [nomadic city] and the final one in the third term [the network oasis].

**THE EXPERIMENTS:** the design of Network Oasis implies the manipulation and incorporation of human and natural behaviour within artificial structures; after researching nomadic behaviour and proposing a set of urban prototypes,

students will make assumptions about their potential of survival, intensification, growth or shrinkage. These assumptions will be tested and visualized with specifically designed digital and physical experiments [simulations]. Students will run two main experiments in the first and third term from which we expect to extract spatial and behavioural recordings.

**THE VIDEO:** time lapsing digital and physical video techniques will be used to capture spatial and behavioural effects of our models as they unfold in time.

**THE TECHNICAL REPORT:** AAInter10’s prototypes are the implementation of material systems and technologies in

relationship to specific site conditions and ecologic processes.

This year our technical research will focus on the mechanisms of survival in the extreme conditions of the desert. Development of shaded routes, Bedouin tents prototypes, irrigation systems, etc. are some of the devices and related strategies that we will study and incorporate in our innovative designs.

In term1 each student will need to compile a technical report illustrating technological research and specific relevance to the project; term two will be devoted to the technical implementation of this knowledge in the design prototype.

This report will be submitted as Technical Studies thesis. Third year student will need to formalize their choices at the end of term1 as part of a dedicated jury event and subsequently develop and complete the technological research during term2.

### **THE OUTPUT:**

The final portfolio will be structured to support and emphasize the experimental ethos of the unit and will require a specific format composed of the following parts (see AAInter10 schedule for more details):

-the working prototypes: the experimental models [a first set in term1 + a final model in term3]

-a LAB book/manual illustrating the research work, the design development and sketches, the prototypes structures and components,

technical and fabrication drawings and functioning diagrams of the models.

-a set of 20 plates illustrating the final proposal with competing images and diagrams and key drawings printed at appropriate scale.

-a 2min. Time lapse or animated video of the final models illustrating architectural effects in real-time

-the technical study book, properly collecting and illustrating the technical research and design development; this component is compulsory for all third year students and constitutes the key technical study submission material

## **THE UNIT AS ECOLOGY OF IDEAS:**

AAInter10 encourages studio work to support the development of the Unit as an "ecology of ideas". Term one will be predominantly group work; individual projects in term 2 and 3 will be cross referenced and linked and research material exchanged. A series of open discussions and pin-ups will be organized both with experts in London and in UAE which will provide information and feedback on the work progress and ambitions.

The team of full time advisors and technical tutors now includes:

- Andrea Bugli [ecoLogicStudio]: parametric and algorithmic modelling
- Dr. Abeer Al Shaalani [British Univerisity Dubai]: cultural and social consultant, environmental design expert for the region.
- Atkins Architects: technical design consultants and brief development

A guest list will be compiled and developed during the year.

The unit BLOG will be used as an exchanging platform within the unit and with the external world.

The field trip in the Emirati Desert will be an essential and exciting moment for the unit: we will approach the large design territory following ancient trails and nomadic routes and explore the main oasis and urban nodes that we will encounter along the way. With the enthusiasm of the modern nomad, we will run a series of experiments which will

include the construction of a 1:1 "solar inflatable canopy" prototype with the collaboration of local partners; we will desert trek, swim the spring pools in the wadi, collect material samples, observe the local nomadic tradition and visit Dubai's most iconic architectures.

The year will terminate with the production of a Unit book illustrating a year for group work; for reference see last year's Dubai Marine Life Incubators book.

Inter10 seeks students with a strong sense of curiosity towards the social and natural sciences and an exploratory attitude towards a new definition of architecture. We aim at training architects that can expand the boundaries of the

discipline and operate as inventors, artisans, artists, engineers and explorers; or perhaps that will be able to evolve the scope of architecture beyond the traditional disciplinary boundaries within a multidisciplinary network of "creative entrepreneurs".

16\_The Informal City,  
Caracas Case \_ Brillenburg,  
Klumpner \_ Prestel

17\_Youniverse, BIACS3 \_  
Seville Biennale 2008 \_  
Catalogue

18\_Invention/transformation\_  
Silvetti, Correa\_Harvard GSD

19\_Future City\_  
Catalogue\_Thames and  
Hudson

20\_AI Manakh2\_ AMO

## **INTER10 DATABASE**

A source of research links and cultural references to support the work of the unit can be found at:

For more references:

UNIT BLOG 08/09/10:

<http://aainter10.blogspot.com/>

UNIT BLOG 07/08:

<http://aainter10.wordpress.com/>

Claudia + Marco practice:

[www.ecologicstudio.com](http://www.ecologicstudio.com)

## **INTER10 READING LIST**

- 1\_Atlas of Novel Tectonics \_ Reiser+Umemoto\_ Princeton Architectural Press
- 2\_Deleuze&Guattari for Architects \_ Andrew Ballantyne \_Routledge
- 3\_The tree ecologies\_Felix Guattari\_Routledge
- 4\_A thousand years of nonlinear history- Manuel De Landa\_Swerve
- 5\_Walkscapes, walking as an easthetic practice \_ Francesco Careri\_ GG
- 6\_Constant's New Babylon\_ Mark Wigley
- 7\_Weak and Diffuse Modernity\_ Andrea Branzi\_Skira
- 8\_Le jardin planétaire – il giardiniere planetario \_ Gilles Clement \_ 22publishing
- 9\_A thousand Machines\_Gerald Raunig\_ semiotext(e)
- 10\_Occupying and Connecting \_ Frei Otto \_ Menges
- 11\_Emergent technologies and design\_ Hensel, Menges, Weinstock\_ Routledge
- 12\_Landscape Urbanism, A manual for the machinic landscape\_ Ciro Najle\_ AA Pubblications
- 13\_Space Craft, Development in Architectural Computing – David Littlefield \_ RIBA Publishing
- 14\_Environmental Tectonics \_ AA Publication
- 15\_Fibrous Room \_ GG Gallery Pubblications

# Self Organization Experiment

*Sand-flow Apparatus*

