Abstract: When in 1870 Heinrich Schliemann began digging for Homer’s Troy at the hill of Hisarlik in west Turkey he could not know that over the next twenty years he would reveal nine layers of settlement remains piled up to an artificial hill of significant height. Built one on top of the other between circa 3,000-100 BCE the layers encapsulate nearly three millennia of the rise and fall of different peoples and cultures, from prehistoric through Western Anatolian, Mycenaean, Hellenistic and Roman.

This year the ambitious objective of Diploma 3 is to ‘reboot’ the Western city by drawing on the intriguing history of the hill of Hisarlik. Disillusioned by the various attempts to modernise this globally applied model over the past hundred years, and dissatisfied by the latest proposals for new urban developments around the globe, the unit seeks clues to imagining different ways of upgrading the city by studying its early versions in the Aegean Bronze Age.

The enterprising venture will oscillate between two scales: building design and urban design. The focus of the year will be the detailed design of a highly densified cluster of buildings on top of Troy’s ancient acropolis. This fictitious tenth layer – Troy X – will be supported by the schematic design of a self-sufficient city for 100,000 inhabitants below the acropolis.

Broken down into eight ‘fragments’ of three weeks duration each, the project will touch on contemporary urban issues ranging from multi-generational housing to city growth without horizontal expansion, from urban mathematics to fuelling and feeding the city, from approaching and entering the city to the protection of the hinterland, from post-fossil transport to the reintegration of domestic farm animals into the city. Those fragments will then be interpreted and joined together in an ‘archaeological’ manner in the last term.

With a focus on conceptual rigour and experimental building design, Diploma 3 is not interested in imitating any particular architectural design style. Instead, it aims for inventive, diverse and unprecedented solutions, and for architectural form as result rather than anticipated intention.

The unit will be inspired and critiqued by international professionals from various disciplines including archaeology, engineering and architecture, history and theory, sculpture and painting.
"The archaeological site of Troy is of immense significance in the understanding of the development of European civilization at a critical stage in its early development. It is, moreover, of exceptional cultural importance because of the profound influence of Homer's Iliad on the creative arts over more than two millennia."

The Site

Troy, Tuva or Troia was known as Illos, Ilion or Illium in classical antiquity. Until its debatable identification with Homer’s Troy in the late 19th century it was locally known as Hisarlik, ‘Place of Fortresses’. It is located in an area which was once called the Troad, or Troas, about 15 miles south-west of Çanakkale. Due to receding sea levels Troy is now about four miles inland of the Aegean Sea. It borders to the Scamander (Karamenderes) plains in the west and the Simoeis plains in the north, named after their two rivers. The exact coordinates are 39°57’26” N, 26°14’20” E.

The hill of Hisarlik is about 30 metres above the plain. The mound of the citadel sits at the western end of the long hill and used to measure up to 12 m in height before Schliemann transformed it radically with his destructive excavation methods. The citadel measures 200 x 160m, the lower town, discovered in 1992 and partly excavated, measures 1,300 by 1,050 metres at its maximum extent. The project will be based on the pre-Schliemann mound and hill and the nearby village Tevfikye will be discounted.

Troy had a history of rise-and-falls, triumphs and defeats and became famous through Homer’s epic poems Iliad and Odyssey. There has been much debate on the historicity of the Trojan War as narrated in the Iliad, and whether it took place at Hisarlik or elsewhere.

Major excavation campaigns took place between 1863 and 1894, firstly under the English amateur archaeologist Frank Calvert (1863-65) followed by several campaigns under the German amateur Heinrich Schliemann between 1870 and 1890. Archaeologist Wilhelm Dörpfeld joined Schliemann in 1882 and continued excavation work until 1894.

American archaeologists excavated between 1932 and 1938 under Carl Blegen, followed later by campaigns supervised by the Germans Manfred Korfmann (1988-97) and his colleague Ernst Pernicka (since 2006).

In 1998 the archaeological site of Troy was listed in the UNESCO World Heritage List (no. 849).

The Project

In the first of his ten books on architecture, the renowned Roman architect and engineer Marcus Vitruvius Pollio, born when Troy’s ninth layer was built, classified “building” (aedificatio) as one of three branches of architecture, and subdivided it into the building of “walls and public works” (moenium et communium operum) and “private buildings” (privatorum aedificiorum).

Vitruvius speaks about building rather than planning cities. Modern town planning, most commonly and fatefully seen as a separate discipline to architecture, seems to have drifted away from this intriguing idea of city building. With this shift cities have become more and more disconnected from material and form, and ultimately from their sites: local materials and building forms were gradually replaced by globally sourced or produced materials and international building types, which also often fail to account for the local climate. Aesthetically, cities became increasingly non-specific, and continue to develop so.

Vitruvius’ understanding raises two central questions for the year. Firstly, where do public works end and private buildings start? And secondly, how much town planning do we need?

As a critique on modern-day town planning the project uses Troy’s 3,000 years of largely pre-historic past to speculate on better ways of making cities. The tenth layer of Troy will be about the re-occupation of a spatially limited hill site by a future self-sufficient city for about 100,000 inhabitants of multi-cultural background. A new-build future city in a seasonal climate zone with rain and sometimes snow, connected to the outside world by high-speed trains and road.

The project is not meant to be reactionary, nor is it intended to be a typical urban planning project. In Vitruvius’ sense, it is designed as a building project ranging from detailed building design to a more schematic approach to infrastructural scale. This unusual span of scales makes this venture into a bigger-picture project which, unlike typical building or master-plan projects, will inevitably stay fragmented.
Taking advantage of its ultimate imperfection, the project’s eight chapters are called ‘fragments’. The purpose of this horizontal approach is to touch on as many aspects as possible in the time given rather than specialising on one or two urban design aspects only.

Set predominantly in the pre-historic Aegean Bronze Age and the 21st century, the project inhabits historic and present-day territory, underpinned by the new discipline of modern archaeology which originated in the mid-19th century. The sensational vita of Heinrich Schliemann and his adventurous and controversial personality will inspire this enterprising venture.

In 1841, at the age of 19 and totally impoverished, Schliemann left his homeland Germany for a job in Venezuela. Twelve days later he found himself shipwrecked and cast ashore in the Netherlands where he became a bookkeeper. Employing his own system of autodidactic learning, Schliemann acquired spoken and written knowledge of 16 modern and 4 ancient languages. He made a fortune as a businessman in Russia and California where he started a bank and traded with gold at the age of 29.

By 1858 Schliemann had amassed a fortune large enough to retire. Instead, he decided to set out for his greatest adventure and spend his money on the discovery of Troy which he believed to reflect an actual historical site since he had read the story of the Trojan War when he was 8 years old. Between 1870 and 1890 Schliemann excavated at Troy, Mykene and Tiryns and became a protagonist of the new discipline of archaeology.

“I cut out the treasure with a large knife, which it was impossible to do without the very greatest exertion and the most fearful risk of my life, for the great fortification-wall, beneath which I had to dig, threatened every moment to fall down upon me.”

Heinrich Schliemann, 17th June 1873
From top to bottom:

Office for Metropolitan Architecture
RAK Gateway, UAE
© 2007 OMA

Foster and Partners
Masdar City, UAE
© 2008 Foster and Partners

Matthias Hollwich et al.
BOOM community, Palm Springs, California
© 2011 Matthias Hollwich
From top to bottom:

**Ferdinand III**
800 watts, 36 volts, 20 km/h max
© Tante Paula Electric Scooters

**Massimo Righi**
*Domestic Pig (Female)*
Digital model, UV-mapped and smoothable, made with Maya
© Massimo Righi

Cusco in Peru was built on top of the destroyed Inca capital, the remains of which are still visible today
© 2008 Peter Karl Becher

**Mud brick maker near Laguna Colorada, Potosí, Bolivia**
© 2008 Peter Karl Becher
Unit Position

With a focus on conceptual rigour and experimental building design, Diploma 3 is not interested in imitating any particular architectural design style. Instead, it aims for inventive, diverse and unprecedented solutions, and for architectural form as result rather than anticipated intention.

In the centre of the unit is the individual student rather than the tutors. Students are expected to carry their own luggage and have a feeling of how much they can carry over a certain distance.

The unit regards time as a tangle of events of continuously changing relevance to the present. History, often disparagingly referred to as merely ‘past’ should be seen as an inexhaustible repository of ideas. Building airships or sailing ships in the 21st century, for example, is not necessarily a reactionary backward step, but could be an intelligent and sustainable solution to pressing problems of our time. One would wish architects to think more like engineers or scientists for example, in an unbiased and multi-disciplinary way.

The unit incorporates the latest architectural representation techniques but does not automatically dismiss traditional ones like working with models, sketching and drawing by hand as superseded. On the contrary, due to the drastically diminishing skills among young architects, Diploma 3 pushes for applying multiple techniques rather than investing into a single tool, like digital modelling. This includes 2D drawing in plan, section and elevation, produced both digitally and by hand and traditional working models made from wood, plaster or cardboard.

“Thus architects who strove to obtain practical manual skills but lacked an education have never been able to achieve an influence equal to the quality of their exertions; on the other hand, those who placed their trust entirely in theory and in writings seem to have chased after a shadow, not something real. But those who have fully mastered both skills, armed, if you will, in full panoply, those architects have reached their goal more quickly and influentially.”

Vitruvius, The Ten Books on Architecture, Book I, first chapter
Expectations

As a hands-on unit for prospective practising architects rather than industrial designers, graphic artists or theorists, Diploma 3 is aimed at the student as a creative individual – not at teaching a specific design style. This gives students a maximum of design freedom and enables them to continue and refine their personal research interests, or to try something diametrically opposed.

The unit fosters young architects who are concerned with understanding the reasons behind architectural shape and form. Students are encouraged to develop their proposals logically, not formally, supported by concise and critical argumentation.

Diploma 3 students are expected to be adventurous and entrepreneurial, precise but not necessarily rigorous, and inventive; above all they are expected to know what they are interested in. Given that this uncommonly broad project will naturally be very speedy, excellent organisation, self-discipline and the ability to move swiftly will be key virtues for a successful completion of the year. Most important will be preparedness to take risk and change direction at any time as well as being capable to abruptly stop working on one thing and commence something quite different.

Students are expected to have a keen interest in making, be enthusiastic about materials and the related crafts, and have good structural and constructional knowledge. They are expected to be particularly passionate about drawing, both digitally and by hand (the latter being of particular relevance when dealing with non-linear archaeological sites). Dealing with a historic site, students are also expected to not only have an interest in the history of art and architecture but also in general history.

A great emphasis is put on physical production, particularly the production of traditional 2D line-drawings – plans, sections and elevations – supplemented by both physical and digital models including computer generated images such as rendered perspectives. 2D drawings should be produced with professional CAAD software such as MicroStation or AutoCAD rather than through 2D exports from free-form NURBS based 3D software such as Rhino. Excellent 3D and rendering skills are essential, so is working with reference files. The unit is not interested in graphics dominated drawings but precise and informative line drawings. Laser-cut models are welcome but 3D prints (STL) are to be avoided this year.

Reading on a daily basis is absolutely vital but should not exceed one hour per day. Again, the importance of physical production cannot be stressed enough and drawing and model making will dominate your daily work. Drawing is thinking.

Teaching

The main teaching day will be Friday when both Peter and Matthew will be present. Students will be seen individually by either one or both tutors together. Peter will give additional tutorials on Tuesdays.

Informal pin-ups will put the work up for discussion every three weeks. At these pin-ups the unit will be joined by one of the advisors (see last page), or by up to two invited guests. Different to unit juries they will be held in an open tutorial format and students are invited to contribute their personal thoughts on others’ projects. The pin-ups will help students to understand their work better, to get used to explaining their work and to get prepared for juries and reviews. They are also intended to stimulate diversity and to push for a broad range of approaches within the unit. More serious unit juries with guests from inside and outside the AA will take place at the end of each term.

Writing skills are not taught in the unit but are part of the complementary History and Theory Studies. Unless there is a language issue, student presentations are to be performed extempore rather than read-out from a script, particularly at pin-ups, juries and pre-/reviews.

Joy Natapa Slyuksiri
Quantifying the Imagined
Horizontal sections through nave, triforium, clerestorey, roof
AA Diploma 3, Completing Beauvais Cathedral, 2010-11
©2011 Joy Natapa Slyuksiri
Project Structure

The first two terms will be treated equally and as one continuous design phase. The 24 weeks will be divided into 8 equally important exercises called ‘fragments’. These fragments will run for three weeks each which is about the duration of a typical competition or summer school. The pace of the unit will be rather swift and an extension of each fragment will not be possible.

The idea behind addressing a broad range of issues is to look at the built environment as a whole rather than dwelling on just one aspect or part of it. This way of working ultimately leads to a broad knowledge on a subject rather than in-depth knowledge to begin with.

It also responds to the current trend in the profession to move away from ‘step-by-step’ work stages towards looking at different scales and seemingly irrelevant issues right from the start. The strict rhythm will give students a feel for how much they can produce in a certain time and help them organise their time more efficiently and work with preliminary decisions.

Each fragment can be seen as a chapter dealing with one particular design problem, or a cluster of related problems, in an isolated manner. The scale of the fragments will stretch from about 1:5,000 to 1:20.

The fragments will then be interpreted and joined together in an ‘archaeological’ manner in the last term as if they were pieces belonging to the same artefact.

Exercises and Portfolio

All briefs will be individual exercises rather than group work. Brief 1 will be issued early in week 1, Brief 2 at the end of week 3. The subsequent six briefs will all be issued at the end of week 6. They will not be numbered and students are free to decide on how to order them, i.e. pick briefs according to their actual interests. The three week rhythm however will be mandatory. The idea behind mixing the briefs is to not only give students more flexibility during the year but enable them to build their ideas on the results - rather than on work-in-progress - of their fellow students' work. A by-product of this method will be greater dynamics in the unit, richer results and more interesting pin-ups and juries.

The eight fragments will address the following topics:

1. The Nine Layers
2. Change, Growth and Control
   -- Urban Finishes and Equipment
   -- Dwelling on the Acropolis
   -- Urban Mathematics and Programming
   -- Feeding and Fuelling the City
   -- The Hinterland and the Distant City
   -- The Infrastructural Web

There will be three deliverables per brief – that’s one piece of work to concentrate on each week – plus a 350 word abstract with title and subtitle manifesting/explaining both the arguments behind your work and your position as an architect.
For example, the first brief will be a massing and density exercise dealing with the nine layers of Troy. Each student will be assigned to one layer, or a part of a larger layer. Deliverables will include: a digital model of the assigned portion, differentiating between actual ruin and hill topography; a laser-cut MDF model of ruins and hill at scale 1:200; and a plaster cast of a massing proposition to sit on top of the MDF model and using the outlines of the ruins as its plan.

The end-of-year presentation of the fragments as interpreted and joined together in term 3 will be in the form of individual treatises in book form, with large folded drawings and illustrations in a slip case. Each treatise will be based on a unit template to enable binding of an additional unit book composed of a selection of individual work. Each treatise will – similarly to Vitruvius De Architectura – be subdivided into ten separate ‘books’, comprising an introduction book, the eight fragments and a conclusion book – the interpretation of the fragments. Each treatise will be illustrated with both scaled down images of the final work as well as by-products such as work-in-progress. The TS will be a separate document formatted individually.

Technical Studies

The complementary Technical Studies will be tutored by the TS team. However, since TS has a direct influence on the unit project – failing TS means that the unit project cannot be submitted – the Technical Studies progress should be presented to the unit tutors on a regular basis.

It is absolutely vital for a balanced and successful year to kick-off TS in the first month of the year. Starting TS in December only would have severe consequences. The unit supports the early TS submission (Option 1).

It is recommended to link the TS to the unit project and see it as an opportunity to gain a deeper understanding of one or two of the fragments. Given that Troy X is a hands-on project with fairly technical briefs the TS could for example be on post-fossil building materials, future means of transportation, agriculture and land use, or statistics.

Unit Trips

The main unit trip in Week 6 will be to the North Aegean area in west Turkey. The focus of the trip will be the World Heritage sites of Troy, Ephesus and Pergamon. The unit will meet in Istanbul and travel down to Izmir via Çanakkale.

An optional weekend trip could be to Berlin to see the Schliemann collection in the Museum of Prehistory and Early History. The museum is now housed in the Neues Museum which was carefully refurbished and completed by David Chipperfield.
In the centre of the year will be Vitruvius’ famous treatise on building projects, De Architectura - The Ten Books on Architecture. Written in about 15 BCE it coincides with the occupation of Troy IX. The book is the oldest and most influential work on architecture in existence and has been of supreme importance in the creation of the greatest masterpieces for over 1,000 years.

Vitruvius looks at architecture as a whole, bringing together urban design, building construction, proportion and order, typology, astronomy and machinery. Ingrid D. Rowland’s new translation of 1999 is recommended over J. Gwilt’s 1826 and M. H. Morgan’s 1914 translations. In 1931 a very good two volume edition was published by William Heinemann and Harvard University Press, combining the Latin text with an accurate translation by Frank Granger. Unfortunately it lacks illustrations.

There are innumerable books on Troy and Aegean Bronze Age archaeology but most of them date back at least 100 years. Unfortunately there isn’t a ‘one and only’ book on Troy to read.

Studia Troica is a book-form magazine published irregularly in Germany since 1991 that offers the latest developments in Troy’s archaeology. Studia Troica 4, published in 1994, is particularly interesting as it contains colour-coded drawings of Troy’s ruins.

Troy and its Remains is Schliemann’s authentic description of his excavations at Troy between 1871 and 1873 and could be supplemented by Leo Deuel’s illustrated Memoirs of Heinrich Schliemann. The latter also covers Schliemann’s work at Mycenae and Tiryns.

Peter Watson’s Ideas: A History from Fire to Freud is a highly recommended cultural history published in 2005. The Human Past edited by Chris Scarre offers a great introduction to world prehistory and gives insights into archaeology. It should be supplemented by Kevin Greene’s Archaeology: An Introduction.

Benevolo’s History of the City provides, with over a thousand pages in total, a feast for every architect’s eye and gives a rich and highly inspiring overview on architectural history, stretching from prehistoric to modern cities and their architecture. It is worth supplementing Benevolo with the relevant chapters in Kruk’s History of Architectural Theory - an incomparably rich and intelligent book.

The first three chapters of Frampton’s Studies in Tectonic Culture and Deplazes’ Constructing Architecture are inspiring reads on material, tectonics and construction.

The Oxford Dictionary of Architecture and Landscape is a small but very helpful reference book for understanding the relevant terminology and Gombrich’s wonderful A Little History of the World, originally written for children, is a very informative and easy read to understand the historic context. Written in plain English it is a masterpiece of concise writing. A parallel reading of the corresponding chapters in Gombrich’s The Story of Art is highly recommended.
Recommended Reading


Further Reading


Reference Books

Peter Karl Becher established Studio Becher in London in 2007 after working for Herzog & de Meuron in Basel, Beijing (Bird’s Nest) and London. He studied at the Städelschule in Frankfurt under Enric Miralles, Peter Cook, Mark Wigley and Cecil Balmond, as well as SCI-Arc in Los Angeles. He taught at London Metropolitan University, Kingston University and NTNU Trondheim before teaching at the AA.

Matthew Barnett Howland is co-founder of MPH Architects. He studied at Cambridge University and the Bartlett and has extensive teaching experience from Kingston University London, London Metropolitan University, Cambridge and the University of East London. In 2004 he was awarded the RIBA Tutor Prize.

Advisors, Critics and Lecturers
Lesley McFadyen will be the unit’s archaeological advisor. She recently joined Birkbeck, University of London, as a lecturer in archaeology. Previously, she undertook research on a Foundation for Science and Technology in Portugal scholarship, at the University of Porto. This research focused on what happens when depositional histories in material culture studies are directly connected to histories of architecture in prehistoric studies. Her main interests include the relationship between archaeology and architecture, and experiences of building and construction in the past. Whilst her background is in archaeology, the orientation of her work has often been towards the discipline of architecture, and she has participated as an archaeologist in design studios within schools of architecture. Themes that she explores in design studio are thinking-through-drawing, drawing lines and time, and drawing the materiality of time in materials. She is working on a book-length project Between Material Culture, Architecture and Landscape: Archaeology, Architecture and Scale for Oxford University Press.

Like last year, New York born Hilary Koob-Sassen will be the unit’s artist. Hilary studied art at Yale University before he moved to London in 2005. He has been artist in residence at the ZKM in Karlsruhe, Germany, and the Serpentine Gallery in London and presents his music, performance, sculpture and film internationally.

Max Fordham will support the unit on questions regarding environmental design. He founded his international practice in 1966. Starting from a room at home, he pursued a new approach to engineering practice based on his own insatiable curiosity about how buildings work. He resisted pigeonholing into the conventional boxes of engineering. He was always interested in the whole building, taking a creative but essentially practical approach to building services design, starting “with the edge of the universe as its boundary and then quickly narrowing down to the specific problem”. The firm he founded continues with the same philosophy, including its commitment to working as a partnership. In 2008 Max was honoured with the Prince Philip Designers Prize by the RSA, recognised as “a pioneer of environmental design for buildings”.

Besides critics from the AA environment the unit will invite experts from various disciplines including archaeology, engineering and architecture, history and theory, sculpture and painting. Those sessions will be supplemented by unit internal lectures given by the unit tutors and advisors.

Peter Karl Becher & Matthew Barnett Howland
September 2011