Pataphysics in Albertopolis
The science of imaginary solutions

Inter 13 2013 - 2014
Miraj Ahmed
Martin Jameson
Architectural Association School of Architecture
The science of imaginary solutions

‘Pataphysics is the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments.

Contemporary science is founded upon the principle of induction: most people have seen a certain phenomenon precede or follow some other phenomenon most often, and conclude there- from that it will ever be thus. Apart from other considerations, this is true only in the majority of cases, depends upon the point of view, and is codified only for convenience - if that! Instead of formulating the law of the fall of a body toward a center, how far more apposite would be the law of the ascension of a vacuum toward a periphery, a vacuum being considered a unit of non-density, a hypothesis far less arbitrary than the choice of a concrete unit of positive density such as water?’

Exploits and Opinions of Dr Faustroll by Alfred Jarry
Pataphysics

“Pataphysics......is the science of that which is superinduced upon metaphysics, whether within or beyond the latter’s limitations, extending as far beyond metaphysics as the latter extends beyond physics.”

Alfred Jarry

Intermediate 13 is interested in the notion of ‘otherness’ in architecture, having thus far examined the phenomenon through concepts of heterotopia, formlessness and void as contemplative and political agencies of the city. We are also interested in the eternal qualities of architecture – the experiential and socio-political attributes of space. We have explored the role of the ‘other’ to critique the power structures and norms of the city, and we have proposed alternative modes of occupation relating to areas in London with predominant institutions or culture.

This year we will direct our attention to the scientific and cultural institutions that characterise South Kensington. The museum district, a by-product of the Great Exhibition of 1851, was conceived by Prince Albert who set out to use museums and universities to create an enclave of science and culture that represented the forefront of knowledge. Altruistic and civic in nature, Albertopolis, as it is affectionately called, was a celebration of science and arts of its time and aimed to be didactic – a place of education available to both intelligentsia and the masses. Here, architecture played a representational role by embodying the ideals, philosophies and sciences of the industrial age, which, at the height of the British Empire, were based on accumulation, rationality and empiricism.

Throughout the 20th century we have seen great shifts in all spheres, where what was apparently certain or rational became ruptured. Ideas in science went through huge upheavals. We live in a time in which physics – or ‘natural philosophy’ – is discussing strange behaviours that are perhaps beyond the physical and might be described as ‘metaphysical’ or even ‘pataphysical’. Pataphysics, Alfred Jarry’s science of exceptions and imaginary solutions, takes systems and ideas and destabilises or reinvents them to the point of absurdity. What is interesting here is the importance of the existing order and its relation to the reinvention. This viewpoint will become the backbone to the year in order to intervene within Albertopolis by proposing new institutions that are representative of current and future thought.
Year overview: studio

**Term 1** focuses on the history of Albertopolis and its institutions, theoretical readings of pataphysics, architectural precedents and research and development of concepts for the main design project. In the first phase we will explore and analyse the South Kensington area in parallel with an engagement with the ideas of pataphysics and its relation to science, art and philosophy. A detailed mapping of the area will provide a deep understanding of the architectural motives and urban characteristics within the scientific and arts enclave.

Explorations of pataphysical phenomena will become the basis of new works during the second phase. A study of selected works of art and science will lead to identification of operations and techniques of the exceptional and absurd — applied to particular scientific properties and embodied in the design of a performative object / device. Ideas and directions initiated in the second phase will then be applied to the third in which the relationships between pataphysics and architecture are explored through precedent study of buildings.

During this phase, each student will explore a work of institutional architecture and transform it using ideas discovered during phase 1. Understanding of the socio-political aspects, programme, spatial organisation and the technical components will become the basis for the formulation of the brief and selection of site. The Hypotheses will be developed in response to critique of the institutions that exist in Albertopia and projects will manifest as conceptual propositions that will be explored and represented in a range of media: photo/film, collage, model-making and drawing.

**Term 2** leads to the development of concepts towards a detailed architectural proposition within Albertopolis. Hypotheses developed in the first term will be developed further to form a defined brief. Pataphysical phenomena and solutions that underpin the design of a new institution and intervention in Albertopolis will be tested through experimentation in relation to specific sites. Students will develop ideas from Term 1 through physical and technical experimentation that will form the basis of the TS document to be completed by the end of Term 2. Experimentation through drawing, material testing and model making will be paramount.

**Term 3** will consist of 2 phases focusing on final project consolidation and final documentation / representation. As well as the final portfolio sheets, models, and other forms of representation, each student will also develop a folio book that will be a designed document and artefact in itself.

All terms will include seminars and workshops that will open up discussion and a backdrop to experimentation and design. There will be interim juries and pin-ups with invited guests at the end of each term.

Jean-Jacques Lequeu
Year overview: seminars and coursework

History & Theory

Students joining Unit 13 should have an interest and articulacy in art and cultural theory and have a desire to translate this into design. The ideas and theories relating to 'pataphysics' and the strategies that are employed in philosophy, literature, art and architecture will be key in terms of design application and should inform the projects theoretically and materially. Students are encouraged to combine HTS with their project research and conceptual grounding.

Technical Studies

Structure, environment and material construction are essential and integral to the design process. Technical research should be documented and collated as an ongoing process in order to support concepts and build a viable technical study that underpins the main design project – based on experimentation and research. We will follow TS Option 1 that entails submission in Term 2. Further information on the TS is given in the Appendix.

Workshops and Seminars

Term 1 will include a series of seminars and talks that will cover theories of Pataphysics in the arts and sciences, as well as the history and ideas behind Albertopolis and a broader study of museums and institutional critique. In each term there will be workshops on representational techniques both 2d and 3d.

Study Visits

Visits to museums in London and the provinces will be arranged in term 1 and 2 – in particular the Ashmolean in Oxford and the Fitzwilliam in Cambridge. While in Cambridge we will also visit the Cavendish Laboratories. There will be a unit trip to Vienna.

Design Portfolio

Students are expected to collate all design material of the year into an A2 portfolio document. As well as this A3 volumes will also be developed and bound at the end of the year. This should be an on-going process of collation in order to exhibit the volumes at the end of the year. Folio checks will occur at the end of each term. Students will be expected to master In-design and elegant layout techniques for the folio and the final book.
Term 1 overview: pataphysical space

First Term: 07.10.13 – 20.12.13

*Pataphysics will examine the laws governing exceptions, and will explain the universe supplementary to this one.*

Alfred Jarry

The first term focuses on research into Albertopolis concepts of Pataphysics through art and architecture and the development of skills as the foundation for the final thesis project in term 2. Research must place emphasis on making and physical experimentation. All aspects should be documented and represented at every step with drawings, images etc. This work will be documented in an A3 booklet, as well as portfolio pages.

The term is divided into 3 phases. Phase 1 involves an investigation and analysis of Albertopolis through drawing, text and photography in parallel with studies in theoretical concepts of Pataphysics and its relation to science, art and philosophy. Phase 2 is based on research into both scientific and art theory and phenomena leading to a hypothesis that is represented within a spatial proposition using pataphysical operations and techniques. In this phase we work in both two and three dimensions with text, drawing and physical model making. The term ends with a 3rd phase that involves analysis of a building and institution that will be transformed using properties and techniques discovered in phase 2. This leads to a conceptual / strategic proposition based on an individual ‘hypotheses’ that both contemplate and challenge the prevailing institutions of the area. This may or may not be related to a site at this stage.

There will be key seminars on Pataphysics, art, scientific method and representational techniques as well as visits to Museums. By the end of the term students will have developed an advanced skill set (drawing and two dimensional representation, three dimensional modelling); developed a personal position on the ideas of pataphysics and the potential of the ‘exception’; selected a site and associated project strategy.

Key texts on Pataphysics include; Alfred Jarry’s ‘Ubu Roi’ and ‘The Exploits and Opinions of Dr Faustroll’ and Andrew Hugill’s ‘Pataphysics A Useless Guide’; Christian Bok’s ‘Pataphysics: The Poetics of an Imaginary Science’; Rene Daumal’s ‘Pataphysical Essays (Imagining Science)’. HTS essays can be developed in line with this work.
First Term: Phase 1

Weeks 2 – 4
07.10.13 – 25.10.13

Site Analysis

Albertopolis is the nickname given to the cultural enclave in South Kensington. It is unique in both conception and inception. Adjacent to Hyde Park, and the surrounding area of Exhibition Road, Albertopolis is populated by large cultural and scientific institutions, celebrated by fine architectural monuments of the 19th and 20th century.

Following the triumph of the Great Exhibition and Crystal Palace of 1851 in Hyde Park, the fields and market gardens nearby became the site that would continue the cultural powerhouse that the Crystal Palace had started. The epoch changing exhibition represented contemporary science and arts as well as the power of the British Empire. It also generated a huge profit.

Prince Albert, Queen Victoria’s German husband, had the idea of developing the area as a collection of institutions and museums that represented the forefront of the sciences and arts as a permanent cultural powerhouse. Its purpose was primarily education, to make knowledge available to the masses ‘to increase the means of industrial education and extend the influence of science and art upon productive industry.’ With government funds, institutions, national museums, colleges and societies would be grouped together to form a kind of mega-university.

The original grand plan was far more intense and ambitious than it is today – the institutions that exist include the Royal Albert Hall, Royal Geographical Society, The Science Museum, The Victoria and Albert Museum, The Natural History Museum, Imperial College, Royal College of Art and the Royal College of Music. The architecture can be said to be representational, embodying ideals and ideas of the times. The institutions still function in terms of cutting edge knowledge and education but do not in architectural terms necessarily represent current more radical ideas in the arts and sciences.

An analysis of the site will cover issues of history, planning, architectural representation, urban strategy and politics. Wider readings of museology and scientific bodies in general will allow students to begin to formulate a critique of the institutions that make up Albertopolis in order to later intervene within the site.

Site Documentation

A) Students will through regular visits immerse themselves in South Kensington and Albertopolis to understand the underlying history and ethos in its institutions as well as its architecture and topography. Documentation of impressions and experience will be made using a wide range of media: drawings, found objects, materials, photographs, edited videos, written narratives etc.

B) In parallel to this, Students will work in groups to produce scale maps and analytical survey of the area. Mapping of the area will consider

1. Geology / topography / site model
2. History / institutions
3. Architecture – survey / drawings of buildings

All mapped information will be compiled into an A3 document that will become a resource for the studio. Each student will compile an individual A3 document that will incorporate part A and B.

A conclusive institutional critique should be added to this document. There will be a pin-up at the conclusion of this phase with invited critics.
I-2. Experiments in pataphysics

First Term: Phase 2

**Weeks 5 – 8**
28.10.13 – 22.11.13

“What Jarry puts forward is primarily a way of seeing and understanding, in which the dimensions of the imagination—which encapsulate literature and art—are more significant than the apparently real world.”

Ben Fisher – The Pataphysicians Library

In modern western philosophy and science the notion of the rational is paramount. Science can be said to rely on the rational and the empirical (knowledge through observation). The idea of the ‘other’ the ‘mystical’ is often viewed as fearful and nihilistic. This was not always the case in history particularly where alchemy is concerned - where otherness is fecund with imagination and possibility.

However, we live in an age in which the further reaches of (rational) scientific theory begin to resemble the philosophical, mystical and subversive. It is the further reaches of science that was of interest to Alfred Jarry and his explorations of the absurd.

**Imaginary problems, imaginary solutions and devices**

In phase 2 students will become Pataphysicians and delve into the ideas that have been explored with regard to pataphysics in the works of scientists, inventors and artists.

A) Begin by inventing (through drawing and making) a solution to a physical problem. Refer to - Chindogu, Heath Robinson, Jaques Carelman, Inventions and Patents, Surrealist Objects.

B) Select a scientific phenomena and performance - for example an astronomical device or machine of some sort. This will become the theme of study and search for exceptional properties - and ultimate subversion through a re-invention and transformation into a new object / installation / device. This process will be a vehicle for understanding function or ‘use and mis-use value’ to support other ideas, or it is an exploration for itself, an enquiry into pataphysical properties – both physical or immaterial.


Identification of the pataphysical will be made in the selected work. In taking ownership of ideas, students will exaggerate, transform and remake the work. Hypotheses will be developed and performative scientific experiments will be set up to validate. Analysis of the process will be made through diagrams text, photographs and measured drawings. It will be important to work both rationally and irrationally using the scientific method as a discipline.

The scientific method typically involves the following steps; 1. Ask a question 2. Do background research 3. Construct a hypothesis 4. Test your hypothesis by doing an experiment 5. Analyze your data and draw a conclusion 6. Communicate your results.
Jacques Carelman — Bicycle
First Term: Phase 3

Weeks 9-12
25.11.13 – 20.12.13

Analysis, Subversion and Transformation.

The third phase takes the unit into precedent study. Through this study students will discover the organisational systems that come together to create a building and it's atmospheres. Architecture is representational and embodies, through building fabric, the ideals and ideas of its time.

In addition to the study of buildings we will also examine wider implications of urban institutional architecture, through issues such as 'difference' within the contemporary city and how these notions are reconciled with what is shared and common. The notion of enclave and heterotopia, the scale of institutions in relation to the city will also be a topic of debate.

Our aim in this phase is to study the ideas of architecture through particular buildings and to use the processes and operations of pataphysics to subvert them. Alternative ideas and forms of representation will be generated in relation to Albertopolis leading to the formulation of a thesis for the main project that will involve an existing or new institution.

Architecture as Pataphysical Device

The phenomena and ideas discovered in Phase 2 will inspire the selection of a work of architecture (an institutional building such as museum or college). Students will carefully dissect the building to transform and build it anew using the lessons and ideas learned in Phase 2.

A) Survey and draw the building; Understand the building by identifying organisation, programme, balance, symmetry, structure, circulation, materiality, mass / void relationships, atmospheres, use etc. Understand the building as a machine or device. Identify its components and the way that these function, what are its environments and atmospheric performances and how do the components create them? It will also be important to elicit the representational ideas embodied within the architecture.

B) Subvert and remake the building; With the pataphysical techniques learned in Phase 2, re-represent the building through transforming and reconfiguring its components. This will involve extending, exaggeration, solid-void inversions, misuse and subversion of function, redefinition of the performance of components. Students will prepare a detailed 3D digital model as the basis of a physical model making exercise with emphasis on laser-cutting and casting techniques. This work will be associated with development of interests in structural, environmental and phenomenological aspects of the pataphysical architectural device that will inform the TS thesis.

Formulation of project thesis

The final part of the term will be to contextualise the pataphysical transformation / proposition and it’s relation to the existing institutions of Albertopolis. Students will speculate on use-value and architectural performance, its representational attributes, as well as possible sites. There will be a pin-up at the conclusion of this phase with invited critics.
A WELL THOUGHT OUT AND NEARLY SUCCESSFUL EXPERIMENT BY EARLY RAILWAY PIONEER

Heath Robinson
First Term: Unit Trip

Oh Vienna!

05.01.14 – 10.01.14

The unit trip will be during the Christmas vacation to the city of Vienna to study the Museum Quarter.
Second Term

13.01.14 – 28.03.14

Overview of the term

The second term leads to the development of an architectural proposition. Like the first term it is divided into three phases.

The first phase is essentially the consolidation of individual project briefs and research / experimentation; here the emphasis is on technical and performative criteria.

The second phase emphasises the main design elements including circulation, configuration of space and programme. The final phase is a physical model-making phase.

At the end of the term students will have prepared a closely argued architectural proposition which includes a technical justification and a compelling physical model and third years will have completed TS3.

Jacques Carelman
Second Term: Phase 1

Weeks 1 - 4
07.01.13 – 01.02.14

Controlled experiments: technical research and design

‘It is true that it has been possible to construct sacks made from a material which allows air and steam to pass through but is impermeable to water; so that one can blow out a candle through cloth and yet the same cloth will retain its liquid content indefinitely. My colleague F. de Romilly has succeeded in boiling liquids in a bell jar whose base was made of gauze with a fairly wide mesh ...’

Exploits and Opinions of Dr. Faustroll, Alfred Jarry

The second term begins with the intense research into the performative qualities of the pataphysical space and interpretations of related scientific phenomena. For third years this work feeds directly into the TS and thesis project. There will be a pin up at the end of the phase.

Hypothesis and Experimentation in Albertopia

A) Site and brief:

Each student should identify and formulate their brief and site precisely in relation to Albertopia; what the nature of the building / space being proposed is, what it does, its relation to context and the aims of its performance. Representation of site, brief and concepts will be through drawings and models.

B) Experimentation:

The work here is methodical and physical – through drawings, material testing and model making. Students will develop hypotheses with respect to certain scientific properties and test these through experiments and model making. Possible topics include structure, material and environmental behaviours.

All scientific phenomena are based on rational explanation and as such have a pragmatic basis. However there are anomalies and unique situations that begin to take us to other more extraordinary explanations and occurrences. It will be important to look beneath the ordinary towards the absurd. Students should also explore concepts that will be both atmospheric and poetic; silence, darkness, light, density, porosity, sacredness, formlessness, transgression which all have a relation to notions of pataphysics. The ‘scientific method’ will be an important guide in the organisation of ideas and experiment.
Second Term: Phase 2

Weeks 5 to 8
04.02.14 – 01.03.14

Design Proposition Development

The design propositions for the thesis project are essentially polemical in nature. The intention is that each design should allow an idea to be tested. The program will be developed in relation to the institutional nature of Albertopía – extending existing or creating new. The propositions will have the potential for experimental occupation. At this stage the TS research and conclusions should inform a design proposition. There will be a series of design workshops during this phase to accelerate the detail design process.

Detail Design / Technical Studies

The second phase of the term is the heart of the design phase of work. Here we start with developing greater precision regarding program and circulation before the key design moves regarding spatial disposition and qualities. The design must both reflect the potentialities of the site and the thesis position developed in the first term. The physical experimentation initiated in Phase two of the term will be continued and appraised. All work will be documented through drawings, text, photography, video and models. At this point the TS document will be organised and compiled and continued as an ongoing process.

2-2. The pataphysical proposition
2-3. The institute in miniature

Second Term: Phase 3

Dates: Weeks 9 to 11
10.03.14 – 28.03.14

The Pataphysical Institution in Miniature

Model making is an integral part of design and as such is an ongoing process whereby models are made and remade, enabling an understanding of space that drawings cannot fulfil.

Physical Model

The end of the second term is dedicated to a detailed architectural model. This will involve detailed rhino modelling and setting out and the use of various digital techniques including laser cutting and sintering. We also envisage the continued use of CNC, casting and a range of other material techniques appropriate to the design. All models will include site information as modelled during the first term, and aspects of materiality as researched at the beginning of the second term. TS work should be finalised and submitted at the end of this phase.
Third Term

Overview of the term

The last term focuses on representation, compilation and speculation at the city scale as well as the completion of the design and portfolio. The compilation work brings together the whole portfolio and addresses gaps and inconsistencies. There are essentially two phases in the short final term. Phase 1 is focused on the consolidation and representation of the design in relation to the wider context while Phase 2 looks at the finessing of the portfolio and book design. The speculation work allows the project to address a wider scale beyond the site itself. The emphasis will be on large scale collages and drawings. All material should be compiled throughout the year as an on-going basis, brought together in its final state during the third term.

Marcel Duchamp — Bride

Chema Madoz
3-1. Documenting the pataphysical institute

Third Term: Phase 1

Weeks 1 to 2
28.03.14 – 09.05.14

Compilation of the portfolio and completion of drawing set

All outstanding orthographic drawings need to be completed by the end of this phase. Folios are to be formatted and printed at A2 or larger. Each student will also complete and bind book as extension to folio.
3-2. Speculative pataphysical space

Third Term: Phase 2

Weeks 3 to 6
12.05.14 – 06.06.14

Series of speculative collages and drawings at city scale

As in previous years we will be experimenting with collage techniques using photoshop and perspective drawing. The idea of this work is both to better represent the ideas of the design itself and to speculate at a bigger scale. In other words, this phase asks the question: what is the agency of pataphysics at the scale of the city? Final juries will take place in the weeks commencing May 26 – June 06.

Week 7 - Second year final tables are on June 09 (2nd year to work on Projects Review)
Week 8 - third year final tables on June 16, 17.
Week 10 - Intermediate final Part 1 examination will be on June 24
Week 11 – Friday June 27 – End of year exhibition
The unit will be following Option 1: final TS submission at end of Term 2. The 3rd Year technical report (TS3) will be a body of research that explores a particular aspect of a design. Observed and recorded phenomena will provide the basis for concepts and technical explorations. Material and structural strategies will be explored in parallel to the socio-political implications of the architectural proposition. This will provide the basis for specific phenomena and technical aspects of the design.

Material processes, such as cutting, destruction, erasure, casting etc will inform model making and architectural technique and become part of the tools for experimentation with TS. Other techniques and interests will emerge depending on the nature and intent of the project. In term 1 phase 3, the investigations of an architectural precedent will reveal issues of programme, event, spatial hierarchies and a whole range of physical and metaphysical phenomena that will allow students to develop very particular interests that will initiate further TS research over the rest of term one and the following. In term 2 these criteria will be the focus of more detailed experimentation and research – leading to a comprehensive body of work that will form the TS report for 3rd year and portfolio work for 2nd year.

Students should be aware that TS should not be seen as a separate study – it is very much a part of the design process beginning early in term one with each individual’s observations and analysis of place and phenomena – which becomes the basis of investigation underpinning the design concept.

Technical studies: TS3
Pataphysical words

Ubu Roi - Alfred Jarry
The Exploits and Opinions of Dr Faustroll – Alfred Jarry
Pataphysics A Useless Guide – Andrew Hugill
Pataphysics: The Poetics of an Imaginary Science – Christian Bok
Pataphysical Essays (imagining Science) – Rene Daumal
Poetics of space Gaston Bachelard
Void in Art - Mark Levy
Voids: a Retrospective – Mathieu Copeland
Formless: A Users Guide - Rosalind Krauss, Yves Alain Bois
Heterotopia and the City - Public Space in Postcivil Society -
Michiel Dehaene, Lieven De Caute
The Presence of Mies - Edited by Detlef Mertins
Warped Space – Anthony Vidler
The Architectural Uncanny - Anthony Vidler
Complexity and Contradiction in Architecture - Robert Venturi
Collage City - Colin Rowe, Fred Koetter
Beyond architecture: imaginative buildings and fictional cities
Architecture and disjunction – Bernard Tschumi
Mathematics of the Ideal Villa and Other Essays – Colin Rowe
Surrealism and architecture – Tomas Mical