

MILLION YEAR
CITY

“When we first arrived, and for twenty years after that, Mars was like Antarctica but even purer. We were outside the world, we didn’t even own things -- some clothes, a lectern, and that was it! Now you know what I think, John. This arrangement resembles the prehistoric way to live, and it therefore feels right to us, because our brains recognize it from 3 millions of years practicing it. In essence our brains grew to their current configuration in response to the realities of that life. So as a result people grow powerfully attached to that kind of life, when they get the chance to live it. It allows you to concentrate your attention on the real work, which means everything that is done to stay alive, to make things, or satisfy one’s curiosity, or play. That is utopia.”

-Arkady Bogdanov, Red Mars

Studio Outline:

This studio examines the profound potential for utopian architectural realisation by pushing past limits of site and political structure. Rather than repudiating the social and structural engineering implicit in the utopian project, this studio seeks to examine these desires and directions – through the lens of an entirely new society; an entirely new world.

The studio will leverage the substantial technical literature on the topic, as well as a wealth of speculative literature and film. The intent is not to frame new technical solutions, but to explore the social, architectural and urban implications of the exigencies and opportunities of the Martian environment and landscape.

The studio will be weighted toward the ‘urban’ scale of architectural practice. In conjunction with subject material from Architecture and the City, notions of urban approaches and utopian attitudes will be unpicked.

The studio will involve skilling appropriate for this scale of design. Both the ESRI ArcGIS and CityEngine packages will be introduced - alongside design workflows suited to the urban scale. The class will be able to exploit the vast repository of geological/geographical information available on Martian conditions - notions of where, and how, to look for this material will be covered in introductory classes.

The studio will involve a 3 week primer investigating Utopian approach. The class work will be collected and collated and form the critical basis for the Mars component.

The studio will involve each student delivering a comprehensive plan for a settlement of between 80,000 and 200,000.

All of this will be permeated with a strong critical position around the role of narrative/fiction, and the production of the image. Critical readings will be assigned each week to help hone a debate and discourse around these topics.

Core Topics:

Utopia: The long heritage of utopian approach within urbanism/architecture will be examined throughout the semester. Attention will be given to utopian 'settler' projects in the Americas and radical social restructuring in early constructivist projects. Each student will adopt one seminal project to critique and dissect.

Autarky: The closed systems, and vast Mumford-esque machine structures of the space industry will be examined and unpacked. These will have obvious hooks to existing discussions around triple-bottom-line sustainability etc.

Architecture/Society: The responsibilities and relationships will be considered, especially in the context of new social orders. Students will be challenged to forecast how shifts in spatial arrangements reflect or respond to shifts in social arrangements.

Science/Science-fiction: Students will examine the fetishistic elements of science/science-fiction; methods of communication and representation.

Operational Concepts:

'Design from Day One' – students will be engaged with design tasks from day one – research will be integrated rather than front-loaded.

'Concurrent Scale' – Students will work across a variety of scales to examine implications rather than assembling a project at the end of semester from constituent parts

'Grounded Speculation' – Students will work imaginatively but within predicated technical boundaries.

'An Earth Analogue' – just as a Mars Analogue Station functions as test bed for potential technologies and approaches in an Earth biome, students speculative work will have implications and real-world applications in the here-and-now...

Tools:

Esri CityEngine – procedural, generative tool for the creation of city fabric. Utilises simple Python scripting to develop form.

Esri ArcGIS – Geographic Information System software - will be used to map and plan over large scales/territories, and to prepare base material for cityengine and rhino models and autocad drawings.

Core Topic Examples:



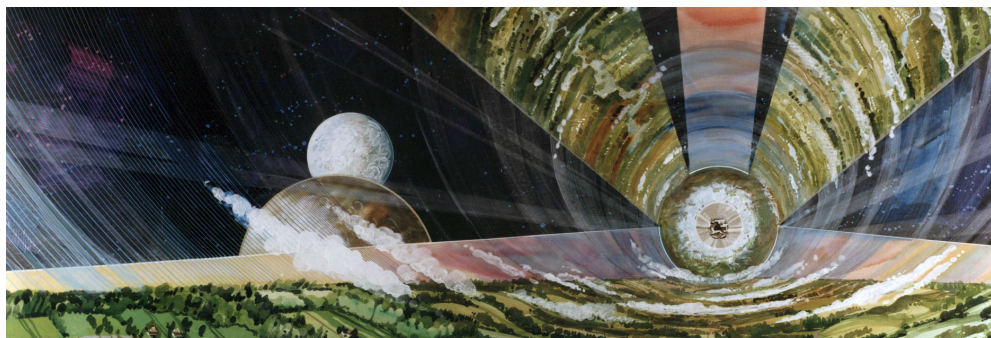
Mars Society - Earth based Mars Analogue stations will serve as one source of technical + structural information for student outcomes...



Total Recall - Students will examine the potent, sublime and fundamentally ridiculous images of Martian society implemented through speculative fiction and film...



MARSONE - Students will examine contemporary architectural and engineering projects relating to the brief.



O'Neill cylinder - Students will interrogate historical examples of 'utopian engineering'

Focus Issues | Utopia:

The studio will unpack the difficulties surrounding definitions and applications of Utopia in urban scale-settings. Students will work to understand the significance, and shortcomings, of utopian practice within an urban design heritage.

Selected Project List:

Students will select a project from the list. Paired projects are to be examined on political, social, ecological underpinnings. Differences and congruences (if present) will be identified.

Students will form a thorough critique of the selected project - through critical drawings and physical models. Students will attempt to fix assumed deficiencies in the scheme.

ARCADIA:

Garden City - Ebenezer Howard

Broadacre City - Frank Lloyd Wright

CIAM:

Ville Radiuse (Plan Voisin) - Le Corbusier

The Ville Contemporaine - Le Corbusier

TOPOLOGICAL:

Constant Nieuwenhaus - New Babylon

Yona Friedman - Spatial City

RADICAL MEGASTRUCTURES:

Superstudio - Continuous Monument

Koolhaas - Voluntary Prisoners of Architecture

METABOLISTS:

Clusters in the Air - Isozaki

A plan for Tokyo - Kenzo Tange

ECONTEMPORARY:

Sietch Nevada - Matsys

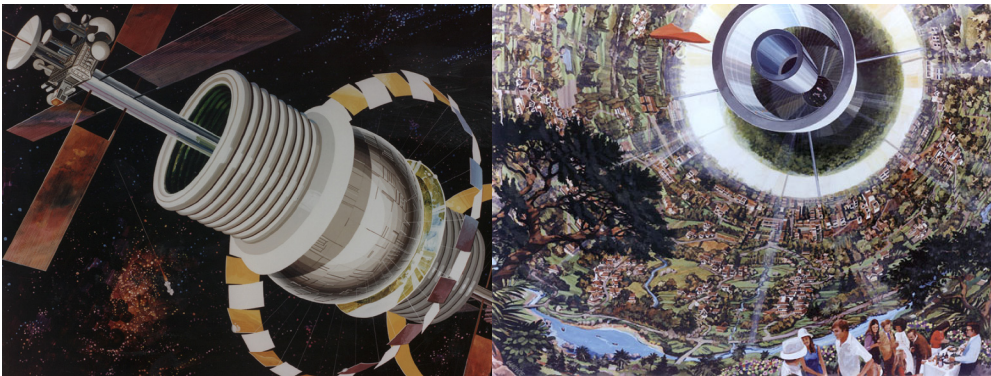
MASDAR - Fosters and Partners

Focus Issues | Mars:

The question for Mars is increasingly troubling – especially given that we are now discussing actual towns – city scale agglomerations. Issues of ownership, of tenure, of rights to these new cities will emerge. These factors have not, as of yet, been integrated or investigated in the otherwise voluminous technical literature around Martian settlement.

The literature reproduces a very specific, sterile kind of vision of what an urban life ought to be. This is all-pervasive – a very good example of the weird disconnect in these projects stems from the space-habitat designs that were promulgated by NASA and the JPL in the seventies. Colossal, radical megastructures – like something you'd imagine Superstudio running off – and then you puncture the skin, and you get inside them and...

It's recapitulated southern Californian suburbia, complete with patio dining and Spanish mission bungalows.



Bernal Sphere - Outside and In.
This studio will critique the inherent biases of contemporary and historical space architecture.

It's just as bad when you get back to Mars – on one hand we have the bleak vision of the Mars-one scheme - on the other the sterile spaces of current base design.

The question would be; why do they, inevitably, look like this? Where is the architecture, and the urban approach, in all of this?

And, because this is fundamentally about cities it allows us to critique our own role as architects, in both contemporary practice, and in ambitious predictive practices like this.

Some interesting questions, raised, for all designers.

- How do we avoid sterility?
- How do we avoid proscribing the behaviours in the city?
- How do we avoid cultural biases (or how do we play these up)?
- How do we avoid the fetishism of technology + form?
- How do we avoid the language of power in the megastructure?

Building on these ideas, the semester will involve the design of an autarkic community of between **80,000 and 200,000** residents.

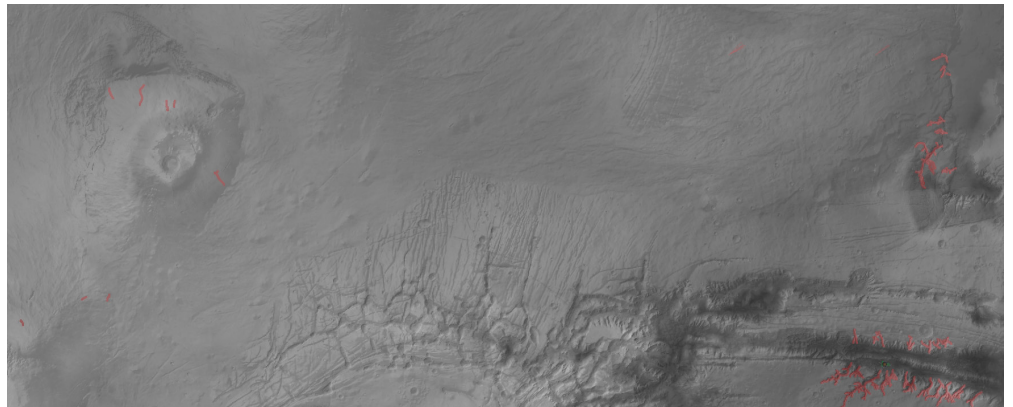
6 MILLION YEAR CITY

Martian Siting:

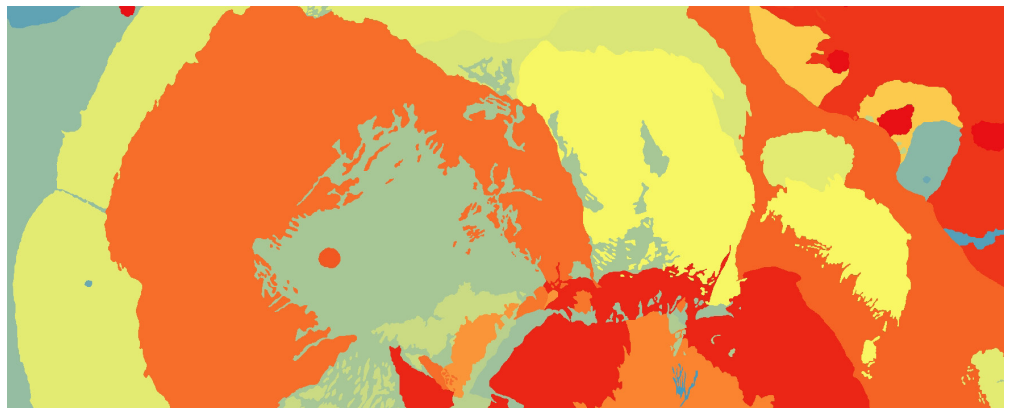
Considerable literature has been devoted to the selection of landing sites for remote exploration on Mars - this can be viewed, for example, in the mission planning material for the Curiosity lander and rover. Less attention, however, has been paid to the siting and locations of settlements.

Students will use provided and sourced GIS data-sets to investigate potential locations for their planned city. The process will provide a suitable analogue for urban site-selection in a local, earthbound context.

Potential Datasets:



Topography and Valley Systems



Geology, soil composition and structure



Geographic features (craters, dune-fields) and place names

Deliverables:

Introduction:

A designed critique of an existing Utopian project.

A5 Booklet.

Mid Semester:

Siting and large scale infrastructural ideas around settlement placement, connections and socio/political approaches.

Journals in progress.

Final Crit:

Detailed site response.

2 Journals.

Journals:

Students will keep two A5 journals - these will be substantive works that will evolve over the semester. Additionally they will format their initial Utopia project work for re-presentation in an A5 booklet.

Journal 1: Documentation of design development

Journal 2: A collection of written responses to readings and associated visual material. Each week students will be asked write a short response (200-300 words) to the provided readings, films, and interactive media. These will help the student frame a broader understanding of urban/utopian concerns. Journal structures and templates will be provided in the first class. This work will be marked and returned to the students each week.

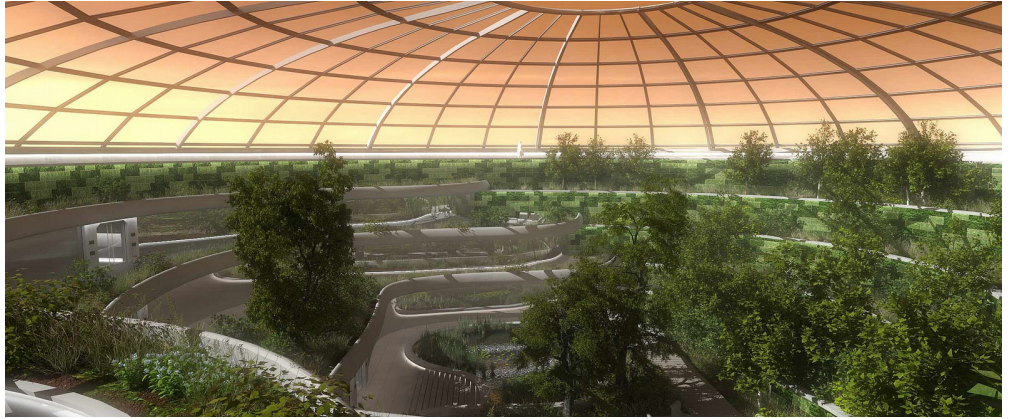
A5 Booklet: A consistent collection of information relating to students Utopian critique.

Readings:

Readings will be assigned each Monday. Feedback and discussion will occur through the Thursday, and official responses will be collected the following Monday.

Readings will be provided digitally. There will be an expanded reading list of advised texts/films that will complement the provided readings.

Parting Thoughts



How do we take engineering ideas like this..



And mix them with the exigencies of a city like this...



...to get something like this?