

Adaptable City Vol.2— investigation of soft systems on the intersection of architecture, urbanism and infrastructure

The notion of indeterminacy within architecture and the city not only halted the project of Modernism but also spawned several trajectories of design that embraced flexible, soft, dynamic and transforming systems to respond to the new needs of the expanding city and its pluralistic inhabitants.

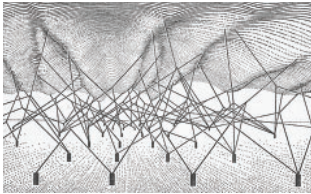
The term soft is expansive in its meanings – it describes material qualities, evokes character traits, defines strategies of persuasion, models of systems thinking and problem-solving, and new approaches to design. This said, the most obvious associations with soft have been material characteristics- yielding readily to touch or pressure, smooth, pliable, malleable or plastic. These definitions position soft as an adjective often tied to a physical thing or noun. Such characterizations of soft aligned with several design motives during the 1960s and 70s that were entrenched in a skepticism of modernism- soft was deemed to enable individualism, responsiveness, nomadism, and anarchy.

Many architects of the 1960s can be seen as forerunners in a soft campaign. Archigram's investigations into pods, Price's inflatable roof structures or Fuller's research into lightness were all literally soft, and often scaled to the material properties of human occupation. However, larger urban visions such as Plug-In City, Ville Spatiale, or Potteries Thinkbelt can equally be understood as soft. What unites these projects was their attempt to develop design strategies that shifted from the malleability of a material to the flexibility of a system. In so doing they developed new characteristics of soft that aligned the term as a verb.

The development of soft architecture strategies in 1960s corresponded to an era of upheaval- the emerging awareness of environmental issues, radical transformations in social structures in Europe and North America and technological innovations, not least with the expansion of computing, cybernetics, aeronautics and biology. We find ourselves yet in another era of far-reaching transformation- economic, ecological, political and climatic amongst others- prompting the repositioning of the role and performance of architecture, infrastructure, and technology. Soft has reemerged and gained increasing traction as a counter point to permanent, static and hard systems that are no longer viewed as suitable to address contemporary urban complexities and their continual transformations.

Researching through design, the goal of the studio would be to examine the use and implications of soft today- from the scale of material innovation to territorial networks. While the scope of soft is diverse in deployment and the issues they engage, the studio aims to concentrate on the post-industrial peripheries - proposing systems, networks and technologies that are responsive, adaptable, scalable, non-linear, and multivalent for the contemporary urban/ruralscapes, working within and against disurbanization and moving to the edge of growth where landscape meets metropolis.

The content, pedagogy and learning outcomes of the course target transcending the methods of research through design as well as case studies, application of discourse with project practicalities and contextual readings with diverse set of materials and exercises.



A vast interconnected and dynamic system, contingency/resilience
Sanford Kwinter, Soft Systems 1993



Functionalist city, complexity a/ contingency within the design of cities, attempt to balance functionalism, interfacing/enveloping
CIAM, 1928



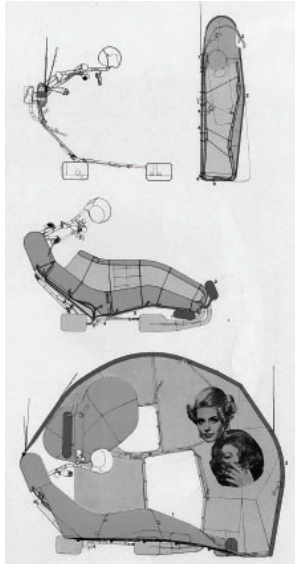
Soft frame, interfacing/enveloping, contingency/resilience, formatting/distributing
Rod Garret, Black Rock City 1997



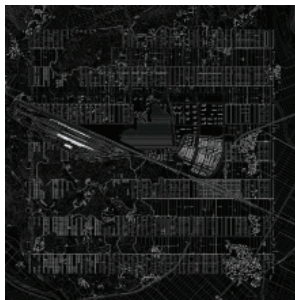
Soft pods, interfacing/enveloping
Coop Himmel(l)au, Basel Event 1969



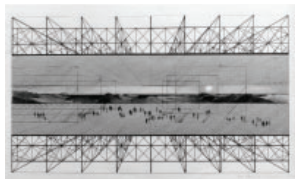
Interconnected and dynamic systems, contingency/resilience
Stan Allen, Field Conditions 1985



Machinic desires, old futurities, interfacing/enveloping
Michael Webb, AD 36 Nov 1966 p576



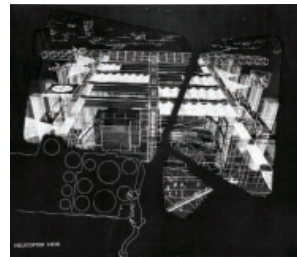
Geometrical obsession, soft organization, interfacing/enveloping
Pier Vittorio Aureli/Dogma, Fields, Gardens and Workshops 2007-08



Cosmo-metropolitanian, machinic desires, old futurities, interfacing/enveloping, contingency/resilience
Archizoom/Gilberto Corretti, No Stop City 1970



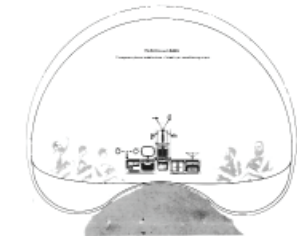
Individuals to collectives, objects to fields, interconnected and dynamic systems, contingency/resilience
Stan Allen, Field Conditions 1985



Interfacing/enveloping, contingency/resilience
Cedric Price, Fun Palace 1964



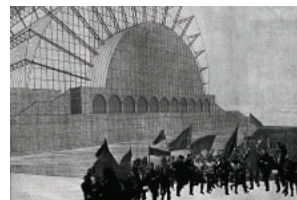
Anti-vitruvius, machinic desires, old futurities, contingency/resilience
Superstudio, AD 41 Jun 1971 p345



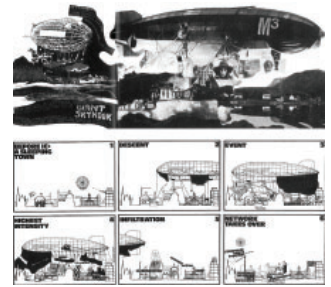
Soft pods, interfacing/enveloping
Reyner Banham/Francois Dallegret, Environment Bubble 1965



Geometrical obsession, post-architectural, interfacing/enveloping
Pier Vittorio Aureli/Dogma, City Walls 2005



Anti-vitruvius, machinic desires, old futurities, contingency/resilience
Superstudio, AD 41 Jun 1971 p345



Machinic desires, old futurities, interfacing/enveloping, sensing/feedback, contingency/resilience
Archigram, Instant City AD 39 May 1969 p280



Machinic desires, interfacing/enveloping, contingency/resilience, formatting/distributing
Nicholas Negroponte, Soft Architecture Machines 1975



Soft frame, interfacing/enveloping, contingency/resilience, formatting/distributing
Rem Koolhaas/OMA, Parc de la Villete 1982



Interfacing/enveloping, contingency/resilience
Cedric Price, AD 42 Oct 1972 p596



Sniace paper mill
2011

Sniace, Torrelavega—

Studio topic, site and discourse

Establishing the narratives of the Adaptable City main theme, the research-by-design process of the studio will explore the post-industrial future scenarios of the currently decaying and shrinking—but previously robust— industrial cities (company towns) to investigate the latent potentials of their 20th century functionalist infrastructures in order to devise 21st century productive urban systems.

Aiming to formulate speculative but well-grounded manifestos, the studio will conduct a site-specific process and focus on Sniace industrial compound in Torrelavega, Spain. Creating an interface between the urban and the rural; the machinic and the natural; the static and the dynamic, Sniace was a post-civil war factory that reinvented Torrelavega as a powerful industrial city in the 20th century. Founded in 1939, Sniace was the largest cellulosic products manufacturer and provided all the paper that was used in the Spanish press; caused rapid population growth in the city; it based its strength on the abundance of raw materials in the vicinity, exploiting the fertile grounds of Cantabria. However, the factory is now facing with the challenges of political, ecological and digital challenges of the 21st century: It is under the process of decommissioning, and with it Torrelavega is languishing.

With its rivers Saja and Besaya conceiving resource and conduits, Torrelavega has a history of transformation ranging from a prehistoric productive landscape to a medieval agricultural hub, then to a regional center of industry, transportation and livestock. Standing in the thresholds of another transformation era, can Sniace attempt to reconcile territorial geography with a local social context for Torrelavega? Is its infrastructure capable of inventing new economies for Torrelavega? Contrarily, should it offer new economies for the Torrelavega or should “shrinking” (urban decay) posit a new urban model for the

post-industrial city? Can it challenge its historic industrial role to be able to anticipate transformability, emergence and complexity natural and cultural processes? While still providing a particular replicable model, can it form complex sets of relations at various scales?

The cities that once were the symbol of the industrial society are nowadays lay abandoned and useless, suffering from serious problems of decay. The inevitable change and their severe repercussions invite designers to discover the potentials of the post-industrial cities through diverse ways of engagement with tactical, strategic design that operates covertly by transforming existing organizational structures, and opportunistically subverts rules and limitations to support new ecologies—whether natural, economic or political.

Initiating a research process on strategic organizational templates that responds to demanding programs rendered uncertain by the unpredictability of contemporary life, the studio will investigate mutual interconnections and co-evolving systems within a compound scheme by questioning:

How to create adaptable mechanisms for post-industrial cities to allow and welcome future transformations?

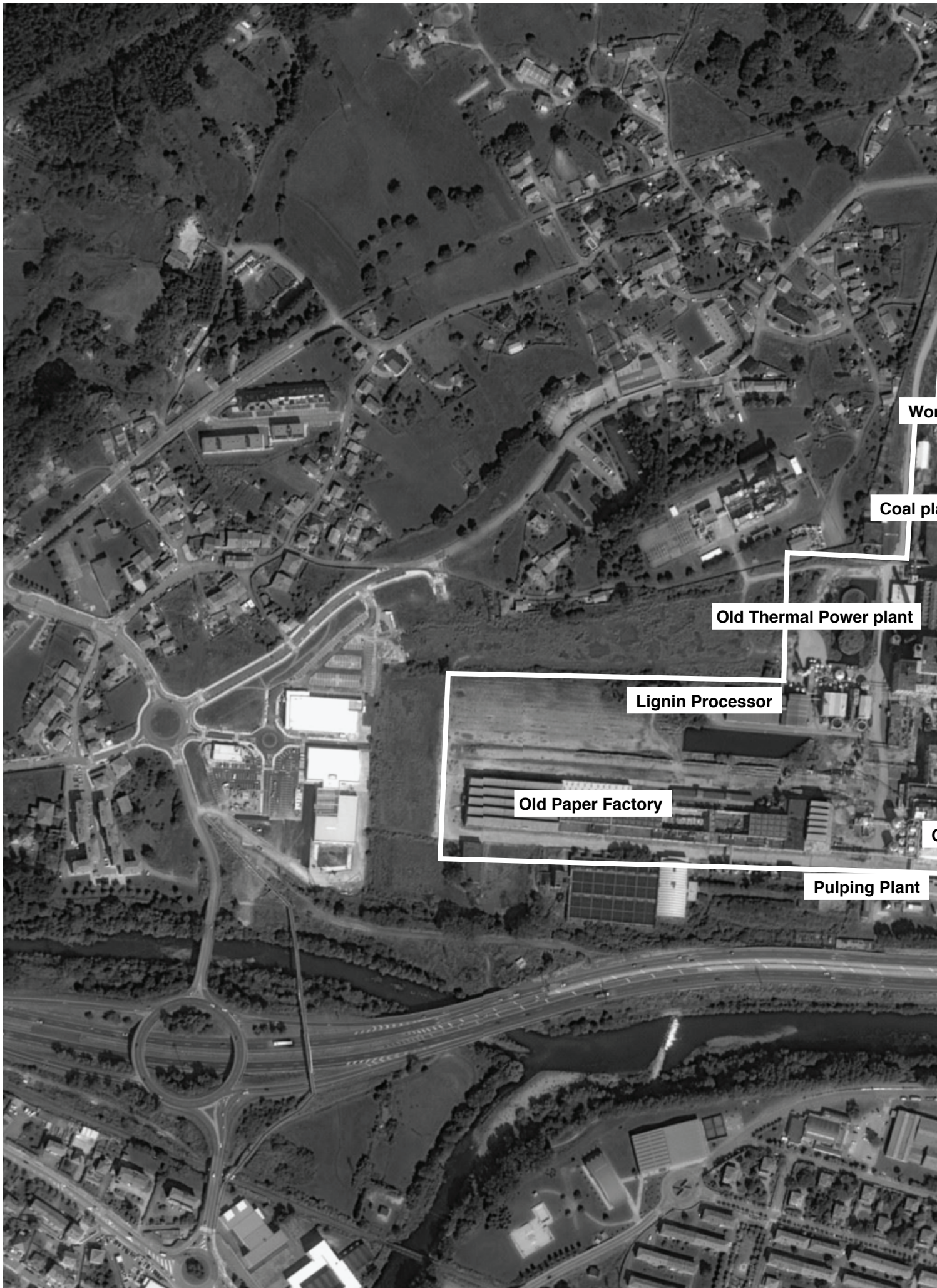
How can design catalyze new models for infrastructure with regards to movement, energy, ecologies, economics and politics?

How can existing industrial templates convert their mono-functional design vision to create mutant landscapes of soft and hard infrastructures?

***“I am enthusiastic over
and sometimes very time
in a shipwreck and all the
top buoyant enough to ke
along and make a fortuit
not to say, though that the
preserver is in the form of
climbing to a great many
yesterday’s fortuitous co
the only means for solving***

***humanity's extraordinary
ely ingenuities. If you are
e boats are gone, a piano
keep you afloat may come
ous life preserver. This is
e best way to design a life
a piano top. I think we are
y piano tops in accepting
ontrivings as constituting
g a given problem.”***

- R. Buckminster Fuller



Wor

Coal pl

Old Thermal Power plant

Lignin Processor

Old Paper Factory

Pulping Plant

C



Workshops

Viscous Preparation

Plant

Entrance

Chemical deposit

CHC

Labs

Warehouse

Cellulose Line 1

Garage

SNIACE PAPER FACTORY
Torrelavega, Cantabria (SPAIN): 2,682.35 m²

Studio Structure—

This studio is positioned and organized such that research and design are in a continuous feedback loop. The studio will operate within a heuristic model of 'research by design'. This will require an iterative process of working, and continuous development in design and research of the project. The studio encourages broad speculations, independent thinking, and the positioning of the architecture design with a much broader social, cultural, political, and economic context.

The studio sessions will include lectures, presentations, individual desk-critiques, pin-ups, class discussions and formal reviews. Class attendance and participation play a key part in the course and will be noted and evaluated by the instructor.

The course will be structured around a single theme, phased in three modules. While detailed

descriptions will introduce each one, readings, lectures and skills & tools workshops will be given in conjunction to support each module:

Readings - Students are expected to complete required readings and participate in class discussion. Selected readings will be assigned to students to moderate a class discussion.

Lectures - The studio will host several lectures by the instructor and the invited academics or professionals with expertise on relevant topics to the research and practice of the modules.

Skills & Tools - Instrumental short workshops will be introduced for students to acquire basic knowledge on suitable software for production.

MODULE 1: Understanding & framing the context

Activity: site research, virtual site excursions, site analyses, cartographic studies (research & interpretations through mapping)

Outcome: thesis question/main argument, speculative masterplan (urban framework) and diagrams according to speculative program narrative

MODULE 2: Systems design

Activity: masterplan/ urban framework studies & design development, program development in accordance with the main argument, environmental & spatial constraints, as well as socio-political & cultural narratives

Outcome: design of the organizational template/system that defines urban mobility, urban ecology and public space strategy & tactics, and selection of particular square to develop the project in detail

MODULE 3: System components

Activity: Employment of strategies & tactics in detail on the selected square, inter-scalar study to test the resiliency of the framework (understanding how the decisions made on a smaller scale affect the outcome of the masterplan) and develop material practice for the project

Outcome: Finalization of the overall urban design according to detailed study of the program, overall organizational configuration and its material qualities.

W Mo Th

MARCH	1	1	4
	2	8	11
	3	15	18
	4	22	25
	5	29	1
APRIL	6	5	8
	7	12	15
	8	19	22
	9	26	29
MAY	10	3	6
	11	10	13
	12	17	20
	13	24	27
JUNE	14	31	3
	15	7	10

MODULE 1	<i>M:</i> Introduction: Studio + Module 1+ Lecture: Urban Development of Torrelavega <i>Th:</i> Studio Discussion + Research Assignment + Lecture: Adaptable City Vol.2
	<i>M:</i> Studio works + Desk Crits / Site research, analysis, cartographic studies <i>Th:</i> Studio works + Desk Crits / Site research, analysis, cartographic studies
	<i>M:</i> Common 3D Model due + Group 1 Presentation + Studio works + Desk Crits / Site research, analysis, cartographic studies <i>Th:</i> Studio works + Desk Crits / Speculative thesis argument due
	<i>M:</i> Group 2 Presentation + Studio works + Desk Crits / Speculative thesis argument: Urban framework + Program <i>Th:</i> Pin-up jury
MODULE 2	<i>M:</i> Group 3 Presentation + Introduction of Module 2 + Studio Discussion <i>Th:</i> Studio works + Desk Crits / Design + Program development + Lecture 1
	<i>M:</i> Group 4 Presentation + Studio works + Desk Crits / Design + Program development <i>Th:</i> Studio works + Desk Crits / Design development + Program selec. due
	<i>M:</i> Group 5 Presentation + Studio works + Desk Crits / Design development + Area Selection due <i>Th:</i> Pin-up jury
MODULE 3	<i>M:</i> Studio works + Desk Crits / Design development <i>Th:</i> Jury I
	<i>M:</i> Introduction of Module 3 + Studio Discussion <i>Th:</i> Studio works + Desk Crits / Design development
	<i>M:</i> Studio works + Desk Crits / Design development <i>Th:</i> Studio works + Desk Crits / Design development
	<i>M:</i> Studio works + Desk Crits / Design development + Lecture 2 <i>Th:</i> <u>National Holiday</u>
	<i>M:</i> Studio works + Desk Crits / Design development <i>Th:</i> Pin-up jury
	<i>M:</i> Studio works + Desk Crits / Design development <i>Th:</i> Jury II
	<i>M:</i> Studio works + Desk Crits / Wrap up <i>Th:</i> Studio works + Desk Crits / Wrap up
	<i>M:</i> Studio works + Desk Crits / Wrap up <i>Th:</i> Studio works + Desk Crits / Wrap up

	Jury
	Lecture
	Pin-up jury
	Group works

* This schedule is subject to change and will be re-issued if significant changes occur.

***“We have confirmed
a devising a frame
of absorbing an
further meanings
intentions without
promises, redundancies
traditions”***

***ned ourselves to
network capable
endless series of
s, extensions, or
ut entailing com-
dancies or con-***

- R. Koolhaas, Congestion without Matter



Sniace Paper Factory 1945.



***“Increasingly, architects
with mixing unknown elements
or at least enabling such
together happily. It is beyond
scientist to predict all the
elements, whether they be human
any particular structure.
must be sufficiently accurate
in the presence of doubt and change.”***

***ure must be concerned
motions and responses,
h unknowns to work to-
ond the art of behavioral
the reactions of the us-
uman or animal, within
. Therefore, architecture
curate to enable this ele-
nge to be contained.”***

-Cedric Price, Lecture “Technology is the answer, but what is the question?”

Course objectives —

This studio values research and design as equal required constituents in continuous exchange during the entire process. Each student will formulate a thesis question centered around the studio's premise. The objective is for each student to produce a projective, speculative design proposal that engages and reframes the problems and questions of a new public culture, landscape and infrastructure through architecture.

Students are expected:

- to study the historic and contemporary transformations of the site to develop a contextual discourse
- to develop and articulate a critical position about the role of architecture in the contemporary urbanized environment (networks, systems, economies and politics)
- to develop a conceptually sophisticated, technically advanced design proposal at a range of scales (city, site, and building), through explicit architectural considerations
- to employ architecture as an opportunity to re-activate social, cultural and economic urban conditions
- to examine mechanisms of flexibility that would allow transformation and future adaptations of the spaces to accommodate new functional requirements
- to study the impact of building not only in a small urban context, but also as part of Madrid's overall skyline/urban framework
- to develop an understanding of organization, systems and process
- to work with a diverse range of representation techniques

Evaluation criteria —

Assessments will be based on the following criteria and scale:

- Intellectual clarity: Enquiry and extension of the course material will be essential to successful studio work. Students must be able to clearly articulate their design ambitions, intellectual underpinnings and all design work in pinups and desk crits.

- Technique: All work must be executed with care and precision. Quality and craft of production will factor largely into performance evaluations.

- Attendance: Attendance to studio for the entirety of the schedule course time is mandatory, and includes prompt and active participation in studio discussions and pinups and beginning on time.

- Completion: Timely completion of exercises and consistent development of architectural concepts over the course of the semester will be required to maintain the rigorous pace of the studio. All deadlines are non-flexible and materials must be completed by the specific date and time.

Students must complete all projects to an acceptable level and obtain a passing average in order to receive credit for this course. Students' work will be evaluated according to their performances in the studio, desk crits, pin-up reviews, jury sessions and final submissions. Minimum required deliverables for the jury reviews and the final submission are:

- Project narrative and report
- Conceptual diagrams, sketches and axonometric explanations
- Master plan /site plan
- Plans and sections
- Project visuals/renders/collages
- Tectonic diagrams

Course Grading

Preliminary projects, research presentations, jury evaluations: 50%
evaluation, performance and participation in the process, term project, final delivery: 50%



Torrelavega rural economies, 1952

References —

Readings:

Allen, Stan. "Infrastructural Urbanism" in *Points + Lines* (New York: Princeton Architectural Press, 1999). P. 47-57.

Allen, Stan. "Field Conditions" in *Points + Lines* (New York: Princeton Architectural Press, 1999). P. 91-103.

Archigram, "Open Ends: Editorial from Archigram 8" in *Archigram: A guide to Archigram 1961-74* (Taiwan, Garden City Publishing, 2003). Pp.216-227.

Arendt, Hannah. "The Public Realm: The Common", "Action: The Disclosure of the Agent in Speech and Action" & "Power and the Space of Appearance" in *The Human Condition*. (Chicago, University of Chicago Press, 1958). Pp. 50-58, 175-181, 199-207.

Koolhaas, Rem. *Berlin Wall as Architecture* (1971), Published as "Field Trip. (A) A Memoir" in *O.M.A., Rem Koolhaas, Bruce Mau, S, M, L, XL*, (New York and Rotterdam, 1995), pp. 212-32.

Koolhaas, Rem. "The Generic City" in *S, M, L, XL. Rem Koolhaas and Bruce Mau* (eds). (Moncelli Press: New York and Rotterdam, 1995), pp. 959-971.

Koolhaas, Rem. "Whatever happened to Urbanism" in *S, M, L, XL. Rem Koolhaas and Bruce Mau* (eds). (Moncelli Press: New York and Rotterdam, 1995), pp. 1248-1264.

Mossop, Elizabeth, "Landscapes of Infrastructure", in *The Landscape Urbanism Reader*. Charles Waldheim (ed). (New York:Princeton Architectural Press, 2006).

Mostafavi, Mohsen. Najle, C. (eds). *Landscape Urbanism: A manual for the Machinic Landscape*. London: Architecture Association, 2003.

Mostafavi, Mohsen. "Why Ecological Urbanism? Why Now?" in *Ecological Urbanism*, Mohsen Mostafavi & Gareth Doherty (eds) (Baden: Laes Müller Publishers, 2010). Pp, 12-51.

Negroponte, Nicholas. "Intelligent Environments/Responsive Architecture" in *Soft Architecture Machines* (Cambridge: MIT Press, 1975). Pp.125-150.

Sadler, Simon. "Open Ends: The Social Visions of the 1960s Non-Planning" in *Non-Plan: Essays on Freedom Participation and Change in Modern Architecture and Urbanism*. Jonathan Hughes & Simon Sadler (eds). (Woburn: Architectural Press, 2000). Pp. 139-154.

Waldheim, Charles. "Landscape as Urbanism" in *The Landscape Urbanism Reader*. Charles Waldheim (ed). (New York: Princeton Architectural Press, 2006). Pp. 35-53.

Wall, Alex. "Programming the Urban Surface" in *Recovering Landscape*. (New York: Princeton Architectural Press, 1999). 233-249.

White, Mason, "The Productive Surface" in *Bracket: On Farming*, Issue 1. (Barcelona: ACTAR Publishing, 2010), 99-104.

Urban Design:

Alison & Peter Smithson with P. Sigmond-Wonke, Proposal for Hauptstadt Berlin Competition, 1957
Archigram, Instant City, A project for a nomadic city, 1968-1970
Archigram, Plug in City, 1964
Archizoom, No Stop City, 1970
Dogma, Stop City, Proposal for an urban theoretical model, 2007.
Lateral Office, Re-Rigging, 2011.
Lateral Office, Water Ecologies/Economies, 2011.
Luis Callejas, Weatherfield, 2010.
Luis Callejas, Airplot, 2011.
Luis Callejas, LILLESTRØM / European 14 Productive cities, 2017.
OMA, Downsvie Park Competition, 2000.
OMA, Parc de La Villette Competition, 1982.
OMA, Paris Expo, 1985.
Oswald Mathias Ungers, Rem Koolhaas, Peter Riemann, Hans Kollhoff & Arthur Ovaska, The city in the city, Berlin: A Green Archipelago, Proposal for Hauptstadt Berlin Competition 1977.
Rod Garrett / Department of Public Works, Black Rock City, Burning Man, 1997.

Graphic Representation References:

Corner, James, Maclean, Alex, eds. Taking Measure Across the American Landscape. (New Haven: Yale University Press, 1996).

De Geyter, Xaveer (ed.) After-sprawl. (Rotterdam: NAI Publishers and Antwerp, Belgium: deSingel International Arts Center, 2002).

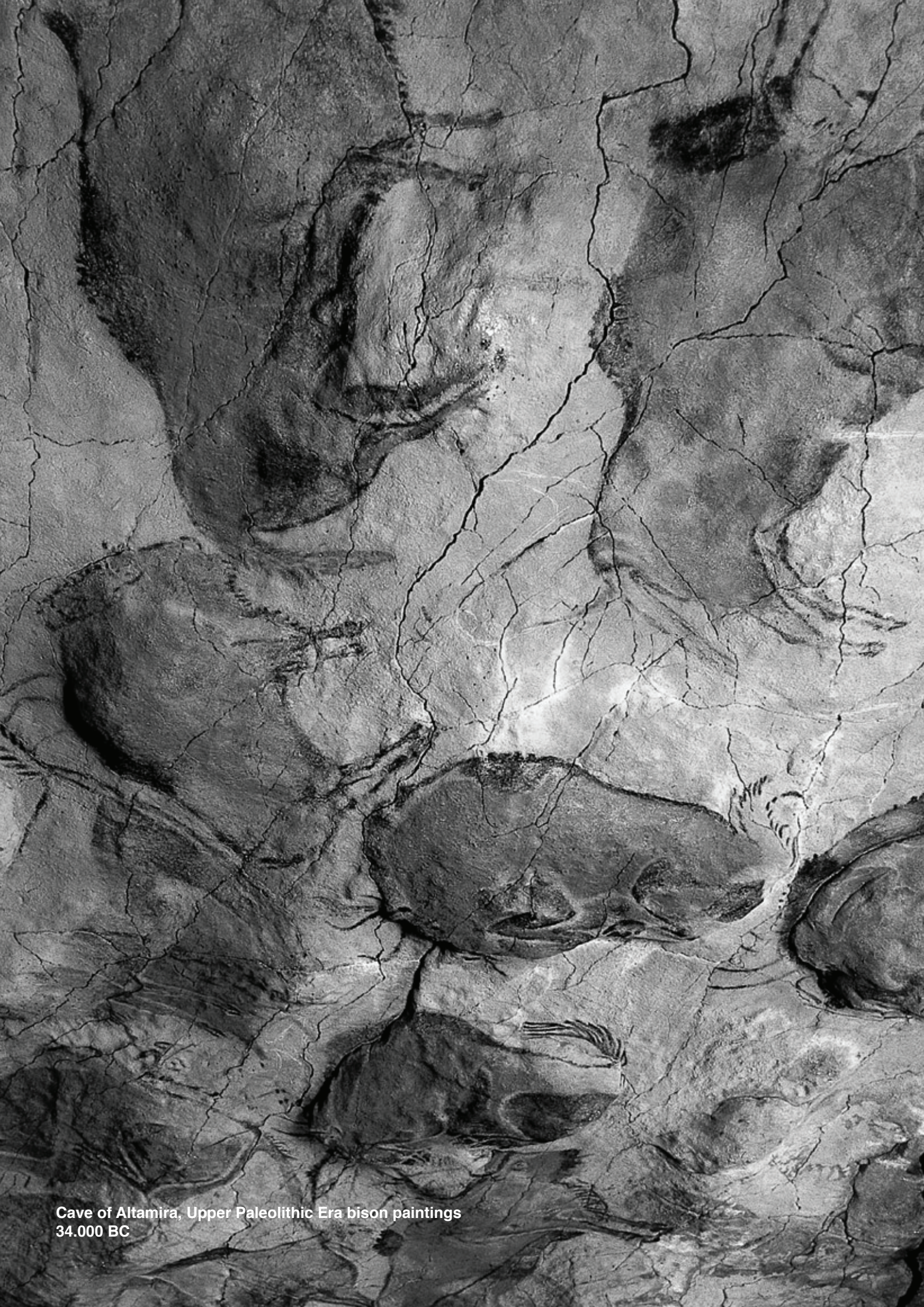
Dogma, Fields, Gardens and Workshops, Masterplan for the Osong Biovalley (South Korea), 2011.
Dogma, City Walls, Masterplan for the New Multi-Functional Administrative City in the Republic of Korea (South Korea), 2005.

Kajima, M., Kuroda, J., Tsukamoto, Y. Made in Tokyo. (Tokyo: Kajima Publishing, 2011).
MVRDV, Farmax. (Rotterdam: 010 publishers, 2006).

Tsukamoto, Yoshiharu and Momoyo Kajima. Graphic Anatomy Atelier Bow-Wow. (Tokyo: TOTO Publishing, 2009).

Contributions—

The studio will host various international and national academicians and professionals as invited lecturers and jury critics throughout the semester to provide diverse feedback and network. The complete list of lecturers and jurors will be announced beginning of the semester.



Cave of Altamira, Upper Paleolithic Era bison paintings
34.000 BC

“Infrastructure works not so much to provide specific buildings on given sites, but to construct the site itself infrastructure prepares the ground for future building and creates conditions for future events. Its primary modes of operation are the division, allocation, and construction of surfaces; the provision of services to support future programs; and the establishment of networks for movement, communication, and exchange. Infrastructure’s medium is geography.”