

The project is to consider the altered and rapid oscillations of the relationship between World Systems and the Earth System through remote sensing.

Architecture is considered as an aesthetic device: it is a sensorium that registers the shifts and re-arrangement of the relationship between polities and their spaces of operation, and it forms the structures that organise and distribute polities by constructing and making present different modes of experiencing reality.

The last decades have seen a development of information compression technologies, which have allowed on the one hand complex modelling of life-cycles on Earth, and on the other have extended and amplified digital communications. We consider this coupled evolution through its affects and effects on architecture and the making of (what used to be called) the city. How to revert the perspective from a complex description of what has happened to what might be?

First, we consider the architectural practices and intelligence that shape the relationship between forms of polities and forms of material processes. Architecture is deployed as an inquiry: we sample the material and energy flux that accrues into cities and landscapes, and we envision new ways through which we can gather and coalesce polities at a time of deep and rapid transformations.

In a system, different elements or components interact and are interdependent, forming a coherent whole sustained in space and over time, with clear boundaries and durations of its internal and external relations. Earth System sciences set out to understand the complex interrelations that characterise the Earth as a whole. They integrate a variety of disciplines and fields of knowledge production.

The development of Earth System sciences has shown that the Earth operates as a complex single system, with physical, chemical, biological and human components, each one interacting with all the others. They contribute to shape a system that is self-regulating and presents multi-scale temporal and spatial coherences.

The dynamics of the relations that characterise the Earth System are unique and they are dominated by life. The conditions to maintain life are the result of complex self-organising relations between the components of the Earth System. The interaction between living forms and their inorganic environments affect the atmosphere, global temperature, ocean salinity, oxygen in the air, the water cycles, the carbon and nitrogen cycles that guarantee sustainment of life on our planet.

The development of Earth System sciences over the last decades has indicated that human activity is deeply affecting the entire system. The atmosphere, the geosphere, the cryosphere, the biosphere, the hydrosphere are faced with new forces, mobilising the Earth towards instability and possible great fluctuations in its interdependent dynamics.

Architecture is considered in its capacity to couple polities and their spaces of operation, as a relational condition based on the simultaneous construction of forms of cohabitation and the transformation of material processes.

Human systems and societies have forms that develop over history. The specific human relations are shaped, structured and hardened by these historical processes. Individuals, groups and societies are shaped in their interactions by these processes as much as they contribute to their dynamics. Long term inhabitation of cities, lands and territories, intricate networks of communication, long term development of everyday life-forms and rituals have a major role in human history as much as local contingencies and immediate actions have.

The intertwined relation between the history of nations and the history of the earth has been at the centre of many different conceptualisations and civilisations over time. The development of these concepts, their specific history, their formalisation, structuring and diffusion are equally a key element in the formation of world-systems.

World-systems are a coherent, sweeping force, unfolding across large areas and through economic, social, political and cultural structures and interactions. They operate at very high levels of coherence and unfold at scales well beyond the individual elements that shape them. They are whole: the boundaries they structure and the flows of energy, money, ideas, language, social class and rank, law, population, power that characterise each world-system in its particular development, shape complete systems which operate as complex entities.

The social construction of time and space evolves through rapid transformations, a succession of different dynamics, where different forms of documentation and different practices of power affect the overall system. World-systems develop through tipping points, through transitions that bring the systems from one level of complexity and coherence to another. This is a complex process which leaves stratifications in language, social relations, ideas, rituals. It also leaves material forms in its wake: the intricate geometries of cities, monuments, fields, infrastructures, that sustain a specific form of a world-system are carried over from one world-system to a new one. Monuments, documents, technologies, are the material inscriptions of world systems. To decipher them, humans need to conceptualise their own history in relation to the history of the planet.

Multiple modes of bringing together research and design, theory and advanced practices are gathered in experimental projects. We increase pressure on what constitutes architecture, how it makes sensible, it senses and it makes perceivable, the dynamic territorial mutations associated with the European space in the new intensified geological epoch.

As a work in progress the notion of Europe challenges us to re-define contemporary space beyond continuous and extensive territorial entities, beyond the hierarchies and certainties of the nation and sweeping urbanisation processes: it holds back on them and reorganises the inhabited space in a series of differentiated individual transformations and disetaneous changes. A series of innovative processes – that reshape the links between the physical environment and the societies that inhabit them – contributes to the construction of the European space as an assemblage of layered and asynchronous environments in transformation.

When considering the work in progress of the European project the question of what is a polity, how it is assembled, gathered, secured, and governed, forces us to face simultaneous and symmetrical challenges. Distinctions between domains of human agency and those of complex technological structures seem to wane. Continuity of ecological processes and territorial organisations appears rapidly shifting into a scattered, lacunar assemblage of layered and asynchronous environments.

The aim of the projects is to indicate how new forms of sensing, measuring and conceptualising feedback loops can be deployed to give form to new spaces of assembly. They are also aimed at evaluating scattered and distributed forms of agency, where continuity between human and non-human forms of cohesion are made more evident.

The rise of the Anthropocene, with the dominance of the technosphere upon the complex multi-scalar cycles of the Earth, is tightly interwoven with remote sensing technologies. It is both the result of the extended use of computational models of management and securing of resources based on distributed measurement and surveying technologies – supply chains synchronised through planetary positioning systems, bio-geo-chemical commodity markets relying on ultra-rapid availability of information at a distance. And it is detected and analysed through these vary same technologies. The arraying of sensors, satellites, airborne surveys, bathymetric multi-beam sonars, seismic readings are linked and stacked into the vast machine that supports contemporary Earth sciences.

Vision is considered as a recursive form-generation process, not as a preliminary to action. When considering contemporary forms of technological survey, remote sensing, orbiting sensors, data transmission, compression and execution, we are describing a complex architecture that challenges notion of dimension, assemblage and feed-back mechanisms. The project operates in this sense by expanding and articulating the bi-location of remote sensing and the complex images it gives way to. Simultaneously a view from above and from within, remote sensing challenges us to think of an architecture open on all sides, requiring multiple and multi directed forms of negotiation.

Refracting, scanning, sounding, beaming, echoing, reflecting, scattering, diffracting: remote sensing technologies interact with the material structures and cycles of our planet and are increasingly shaping our entanglement with the transformation of contemporary territories. We operate by measuring within, amidst, in the middle of processes and events: it is not possible to be removed, remote.

Work Plan

The work is a specific mixture of thinking and doing, with an emphasis on constructing a complex design thesis to influence and change the current state of affairs in a selected locale. You will develop a strong architectural, theoretical, cultural, political, economic and technical argumentation and set forth an innovative way of shaping and re-organising architectural practice.

The first two terms are conceived as a continuous workflow, marked by a tight rhythm of development, which will bring you to develop your design in full detail. From the outset of the year, you will be working on the design: the preliminary work moves away from the notion of investigation as a practice that focusses on what is necessary to know before acting and thinking –research before design– and approaches the notion of the project as a space that generates, transforms and innovates agency. The third term will be dedicated to the full detail elaboration of your thesis.

We present the work as a series of samples and fathoming into the multiple objects, situations, actors and spaces, social processes and individual subjectivities that shape the liminal spaces of Europe today. We activate architecture at different levels of magnification: observing the territories as complex assemblages of procedures, networks, infrastructures, populations, historical processes, ecologies, natures and urban spaces, we will trace the specific ways by which these territories are wrought and reshape their physiognomy in relation to globalisation, climate change, economic change and the complex mobilities and circulations that characterise contemporary Europe at an age of its institutional reorganisation.

The rhetoric of your architecture project incorporates and mixes remote sensing images and 3D models, drawings, schemes, archives, timelines, image making, text, videos, maps, and digital representations and experiments a rigorous visual architectural language as well as a precise inquiry into transient spaces.

Working as an archivist of contemporaneity, your designs operate among existing technologies, they reinforce them, subvert or rethink existing procedures of power and authority. You develop an experimental thinking and doing architecture, you operate at a junction with expert knowledge and radical practices. The work is flanked by a series of seminars on the theoretical junctions of architecture intelligence and experiments around the new climatic regime of the Anthropocene.

Technical Studies

Survey and measurement are the way into the management, design and operation of complex infrastructural systems and construction processes. TS5 at Dip4 investigates the full potential of these technologies for architecture. Complex diagnostic technologies being developed entail new modes of measuring, testing and intervening into the complex material and organisational environments. They have direct connections to the governing and control of space. They do not only advance the ways to detect change and measure material transformation through time, they unfold new sets of procedures and modalities to control, direct and modulate the interactions between human spaces and material structures. They form the basis of contemporary construction processes.

The TS work investigates how this new landscape of automatic images to measure the built environment can be conceived along the same lines that X-Ray imaging, CT scans, Magnetic Resonance and other medical imaging technologies have transformed diagnostics and medicine at large.

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