EPFL

AR-638   **Sensing Like a (Multipli)City**

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Cursus	Sem.	Type
Architecture and Sciences of the City		Opt.

Language of teaching	English
Credits	3
Session	
Exam	Written & Oral
Workload	90h
Hours	**60**
Courses	18
TP	24
Project	18
Number of positions	**16**

Frequency

Only this year

Summary

A hands-on approach on how sensing works is complemented with theoretical insights to reflect on the critical zones opened up for urban research by the expansion of coded environments, providing the students with tools and skills for stating transdisciplinary goals and methods.

Content

Sensing Like a (Multipli)City:
Coded Environments, Operational Images and Networked Imaginaries

- The system itself must never be content to remain a passive observer of incoming data; it must participate in exploration.
Avery R. Johnson

In Soft Architecture Machines (1976), Nicholas Negroponte noted how "Big Brother is not only watching, he is measuring your pulse, metering your galvanic skin resistance, smelling your breath." Rather than this precise and invasive sensing, poking and probing technologies, Negroponte advanced the use of vague visual mappings to understand the user and her actions through context (Busbea, 2020). However, from thereon the user would indeed soften and become more malleable through continuous probing while the high-resolution quality of this environmentality would exponentially increase. Today, this new form of governmentality as techno-aesthetic manipulation and optimization has produced a specific form of networked technosensibility. Bodies' responses are defined by an entangled assemblage of interfaces in between computing and biology and behaviors become an object of design through nudges and other algorithmic touches while machines make sense of our cities for us.

We want to render the material agencies emerging from this form of networked technosensibility operative for architectural, urban and other spatial practices. In order to do this, we will start by considering the urban realm as coded environments, media-milieux where the biological and the technological become entangled through multi-layered informational flows. With inputs from biology and biosemiotics, information theory and cybernetics, philosophy, STS and critical media studies, we will see how coded environments trace bodies and matter, modulating their affects/effects, agencies and practices. While nudges and new atmospheric enclosures operate by silencing non-quantifiable environmental information(s), they also open up new grounds for alternative techno-ecologies of signs, interfaces, codes and commons.

Beyond modern paradigms of individual autonomy or subjectivity, this networked technosensibility operates through more-than-human arrangements working together in conflictual and productive ecologies. Can the city, as an inherent political multiplicity, give us parameters or models to think with this networked sensibility, as well as with its emerging aesthetics and politics? By analysing how the city sees, feels, explains, shows, hides... all in all, by analysing how the city senses and makes sense, we find ourselves better fitted to this ever-changing landscape-hence able to develop new

more-than-disciplinary spatial operations.

By feeling, groping and nudging bodies in multilayered ways, from your n-th notification from your smart device to the workings of digital twins where the mirror becomes sovereign ruler and reality mere malleable matter, our bodies are orchestrated in multilayered ways. The resulting coded environments are thus increasingly modulating and designing behaviours and in doing so the social spatial production. Thus, we will focus first on an ethnography of sensing devices in urban environments to understand the ways coded environments see through algorithmic touches. While sensors are usually conceived as incorporeal technical devices valued just by their outgoing data, it is important to understand their material presence and the haptic dimension of their operations, by studying their direct and indirect effects on the city inhabitants' spatial, political and affective agencies.

Secondly, and precisely in connection with the role of sensing images, we will specifically focus on new forms of machine vision and the operational and networked images they produce, constituting a hidden yet increasingly crucial form of machinic urban cognition in the definition of coded environments. Not only this constitutes a new scale in scaffolded or extended cognition, by offloading crucial tasks and capacities, but it opens the door to an autonomous and hyperlocal procedural machine cognition. Such forms of networked images trigger sets of chained operations in an automated or semi-automated way and bear an unsuspected lifecycle, shaping our past, present and future urban environments and representations beyond apparent human intervention. In this sense, we can consider that operational and networked images produced by forms of machine vision create a shared repository of affective images bearing a particular type of agency at spatial, infrastructural and social levels. This urges us to interpret them and tackle their relevance for contemporary and future urban design and governance, as well as to negotiate our own role in this hybrid mode of cognizing our environments.

Finally, we will address these aggregated and shared repertoires of affective images (or networked imaginaries), to better delineate their political (and consequently spatial) operational power. Moving beyond the modern autonomous subject and its corresponding authorial figure as individual owners of transcendent forms of imagination, we are faced with the need to theoretically and practically ground new forms of collective speculation and imaging to trigger and feed new forms of commons. Departing from the idea that images are not individual entities, but already constitute a shared and plural form of commons, we will explore networked imaginaries and how they can also open up the possible. We will study the haptic quality of these images and visions, the aesthetic polyphonies they bring forth, stewardship and other working-with dispositions they demand from us, or the importance of considering not the future, but futurities, parallel and simultaneous temporalities burying linear timelines to unleash a present disquiet moving us towards caring action.

FORMAT

We cannot think about the nature of coded and coding environments and their effects on our spatial (aesthetic, political) practices without technically grasping their functioning. This principle is at the core of the course's organizing principle, as it will help participating PhD students to ground technically the issues raised AND frame with theoretical depth their research. The latter will be done through a series of lectures by both the course instructors and a series of guest lecturers, along with seminar sessions with these guests focused on the participant's research questions. The former will facilitate workshop hours every morning where speculative and research questions will be addressed and grounded in the production of collective shared interventions in coded environments (eg. through exercises imagining data breaches in order to create future speculations on networked technosensibility or creating alternative sensing machines).

Lectures

Each morning for the first three days, the course instructors will open up the sessions and set the thematic and methodological tone for the day with a theoretical and technical framing of the days main topic. Then, each afternoon we will welcome a keynote lecturer who will focus on a specific question to address in detail the day's main topic. A young-scholar specialized in the topic will act as respondent with a short conference following the keynote to frame the ensuing Q&A. The two guest lecturers will then take part in a seminar session with the course participants oriented towards their questions.

Final paper

During the lectures, seminar and workshop hours, students will be invited to state a topic of research (individual or collective) that will make the object of a final research paper. They will be helped to nurture it through the different sessions, as well as through individualized reviews oriented towards the preparation of the pieces for academic publishing. Papers will be submitted a month and a half after the course sessions and the organizers will then help the students take the final steps to publish their papers.

ORGANIZERS

Lucia Jalòn, ALICE, EPFL

Lucia Jalòn Oyarzun is an architect and researcher. She graduated from the ETSAM School of Architecture of Madrid where she also defended her PhD "Exception and the rebel body: the political as generator of a minor architecture" in 2017. She is currently Head of Research at ALICE (Atelier de la Conception de l'Espace) at EPFL and Research Fellow at the Center of Digital Visual Studies (UZH), where she continues her interdisciplinary research on secrecy and clandestinity as spatial compositions under capitalism, the effects of coded environments on the body's spatial

capabilities, and maps as instruments of (dis)orientation. She has taught for several years at the ETSAM School of Architecture of Madrid, where she currently teaches at the MArch II in Architectural Communication, and has been invited to several international universities. Her work, ranging from scientific production to cultural critique, has been published in several journals and publications.

Dari-o Negueruela, DVS, UZH

Dario Negueruela del Castillo is scientific coordinator of the Max Planck Center for Digital Visual Studies hosted by the University of Zurich, and affiliate Head of research at the ALICE EPFL. In 2017 he defended his PhD thesis entitled "The City of Extended Emotions". Previously, he completed his Diploma of Advanced Studies in Madrid School of Architecture (ETSAM UPM), where he was researcher and coordinator for the Masters in Collective Housing. His background also includes Delft Technical University in the Netherlands (MSc.) and the University of Westminster (BA). Dario's current research deals with the enaction of novel forms of urbanity through aggregate emotional behaviour and it relation to urban form. In his work, he combines spatial centrality analysis with different methods of quantitative and qualitative analysis on emotional facial, corporal and verbal expression and spatial practices.

Gordan Savicic, ZHD

Gordan Savicic is an artist and designer whose work investigates the relationship between people, networks and interfaces. Fascinated by the effects of digital media on subjectivity and its deep social implications, he is interested in imposing and applying the assumed (computed) reality within different realms to discuss its potential future and exploit. He has a background in media art and visual communication, and he has been active within the fields of academic research, teaching and industry. His participation in collaborative projects and performances have been shown in several countries and received various awards, such as Japan (dis-locate), Germany (Transmediale), Austria (Ars electronica) and Spain (Arco), among others. Savivic is teaching new media art practices and creative technology at various schools and universities, primarily at HEAD Geneva and in Digital Ideation at HSLU in Lucerne. With Computedby he developed the Deepcity web platform, both conceptually and technically in 2021.

Note

- Applications are open to young researchers currently enrolled in a PhD program at either a Swiss or a foreign university. Exceptions may be made for highly motivated MSc students from Switzerland with a very strong application portfolio. There is no strict requirement regarding home discipline or field of study, but candidates whose research bridges between or across disciplines, and focus on spatial and human-related matters (cultural, material, technical or ontological) will be favored.

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- To enroll in the doctoral course candidates will have to submit an application with their CV, research summary (150 words) and a 300-word original statement regarding one of the themes of the course. Once accepted, all participants are expected to prepare a selected reading list before the start of the course.
- The course will take place on site at the Lausanne EPFL Campus.
- The course will take place from Monday to Thursday, Jan 30th to Feb 2nd. Then the students will have a month and a half to complete their individual or collective paper (to be submitted on March 20th).

Keywords

code, sensing, city, technosensibilities, coded environments, environmentality, machine vision, operational images, networked imaginaries, urban commons

Resources

Websites

- https://sensingmultiplicity.carrd.co/