COURSE SYLLABUS

ARCHA6927
Monday 11-13h
Fall 2023

Science and Technology Studies (STS):
An Introduction for Architects and Planners

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COURSE DESCRIPTION

The Science and Technology Studies (STS) tradition 'flourished' in the 1980s in the aftermath of the structuralism wave and generated new concepts and methodologies for the understanding of innovation and technological change. In the past two decades STS, and in particular Actor-Network-Theory (ANT), gained popularity among researchers in the fields of design, planning and architecture studies.

The aim of this course is to introduce the students to research techniques from Science and Technology Studies (STS) that will equip them with analytical and narrative tools to account, make sense and analyze technological developments in cities. We will:

⇒ provide an introduction into STS and will discuss critically how specific STS methods, concepts and insights can be relevant for the design and planning disciplines. We will focus on key concepts such as innovation, creativity, success and failure, controversies, object-oriented politics, traceability.

⇒ examine closely recent attempts to extend the methods of STS and ANT into the field of design, architecture, planning and urban studies;

⇒ provide a crash course on creative writing for urban/design scholars; We will hone our skills in the 'art of description' based on introspection, 'slow' observation and reflection, and meticulous accounts of design and urban experiences, interactions and processes.

To be a savvy 'reflective practitioner' in any field, you will need to be able to reflect critically on issues of innovation, creativity, success and failure, the agency of design objects and urban artefacts, and technological processes and networks. The course welcomes students: a) with an interest in architectural and urban technologies of different nature and scale; b) willing to engage in reflection on their own experiences as designers and urban dwellers and to experiment with different writing techniques; c) curious about relational perspectives to design and cities.

FORMAT

The course will focus on discussion and creative/experimental writing. There will be 2 types of sessions:

1. The discussion sessions will typically consist of a presentation by the Professor followed by discussion organized around a reading (typically 1 chapter of 20-30pages from the reading list) or a film screening.

2. The *atelier d'écriture* sessions will include a writing exercise: all students in the class are invited to write 1 page (300-500w) on a particular topic and bring their work in class. This *atelier*-type sessions follow a method developed by Bruno Latour that consists in writing a short piece in response to a topic and analyze closely the texts by extracting implicit theories about the phenomena discussed. This approach is based on the assumption that 'thinking *follows* and does not *precede* writing'. We will practice different writing techniques, and study different texts and narrative approaches that might be useful for urban/architectural researchers.

   In class each paper will be read out loud and then analyzed collectively (through a careful 'dissection' of both the specific arguments and the writing style). In the discussions, we will explore the performativity of writing and in particular, the role of description as a type of narrative that is never neutral but always holds implicit theories of the phenomena under scrutiny. The atelier sessions will act as a surgery of different writing styles and narrative techniques and will be connected to specific arguments on a chosen theme. This will be an opportunity to reflect on the mechanics of writing and the countless surprises generated by the material act of writing. The seminar includes 5 *ateliers d'écriture* in total: 'mundane artefacts', 'designing', 'archiving', 'dwelling' and 'tracing cities' [see the timetable].

Timeline

11 Sept: INTRODUCTION & PRESENTATION OF THE COURSE	**18 Sept: STS:** EPISTEMOLOGICAL OFFERSINGS	**25 Sept:** MUNDANE ARTEFACTS - atelier	**2 Oct: INNOVATION**
9 October: TECHNICAL FAILURE	**16 October:** DESIGN qua VERB - atelier	**23 October:** DESIGN ARCHIVE qua VERB - atelier	**30 October:** OBJECT-ORIENTED POLITICS
	13 Nov: DWELLING qua VERB- atelier	**20 Nov: TRACING CITIES-** atelier	**27 Nov:** PRESENTATIONS OF FINAL PROJECTS

ASSIGNMENTS AND GRADING

Participation in weekly discussions and in the *ateliers d'écriture* will be essential to the success of this course. <u>The main assignment</u> is a final project presented in the form of an essay, story, ethnographic account, interactive mapping. It should feature the analysis of one technology, artefact or innovation process in the field of architecture, city planning or urban design. Your text should trace the development of the chosen technology (history of invention, genealogy, use), elaborate on a typology with a range of variations, unpack the materiality and modalities of use, as well as the different modes of human engagement and experiences. You should make an argument based on secondary materials (images, texts, archival materials, news reports) and first-hand observations, original sketches, photographs, maps, interviews, ethnographic site visits. You should select a writing style that better suits your argument – be creative! Detailed instructions will follow.

The following milestones are important to put the project together:

1. Select the topic and draft an initial proposal (1 page) including a discussion of themes, initial key sources and empirical plan for your final essay. Reflect on possible visuals and the writing style. Please, submit this plan directly to Albena <u>by 23 October 2023</u>, no matter how tentative you think it is. Your essay may take off from a syllabus topic, developing it in more detail or it can complement the syllabus by generating other topics. Individual meetings will be held in the week <u>of 30 October 2023.</u>

2. Individual feedback on the progress of research and writing will be provided in November upon request.

3. The final paper of between 10-15 pages (excluding references) is due in December 2023 (date tbc). No matter what your topic is, your paper needs to make some use of a subset of seminar readings and writing techniques.

LEARNING OUTCOMES

Upon successful completion of this course, you will:

⇒ become familiar with the analytical vocabularies of STS and will be able to confidently discuss concepts and methods from this field and put them in dialogue with architecture, planning and urban studies;

⇒ gain extensive knowledge about technological innovation, failure and success, and the role of technology in urban life which will inform further your research agenda and design or planning practice;

⇒ advance your understanding of the current technological developments in cities and the conditions of urban life through a range of methods that inspire careful observation, tracing and description applied in your final project;

⇒ develop and fine-tune your writing and critical thinking skills in the sessions *'atelier d'écriture'* through the writing of a series of short and experimental texts.

SCHEDULE

Week 1 (11 Sept): INTRODUCTION & PRESENTATION OF THE COURSE

This class will be an introduction to the course and to me. Please, prepare 1 slide to introduce yourself, your interests, and expectations from this course.

Week 2 (18 September): STS: EPISTEMOLOGICAL OFFERSINGS

Plan of the session: **This session will outline the key epistemological offerings of STS for Architecture, Urban Studies and Planning Theory. It will introduce key insights from Sociology of Technology and will discuss their relevance and limits for the analysis of cities and architectural design. We will present in particular key arguments from the work of Bruno Latour (one of the founding figures of STS): 'We Have Never Been Modern', 'There is no Society', 'Follow the Actors', 'We are Locked in the Critical Zone', 'Give me a Gun and I will Make All Buildings Move'.**

> Readings:
> Yaneva, A. (2022) *Latour for Architects*, Oxon and New York: Routledge. OA: https://www.routledge.com/Latour-for-Architects/Yaneva/p/book/9780367348632
> Latour, B and Yaneva, A. (2008) 'Give me a Gun and I will Make All Buildings Move: An ANT's View of Architecture', In Geiser, Reto (ed.), *Explorations in Architecture: Teaching, Design, Research*, Basel: Birkhäuser, pp. 80-89.
> Latour, B. (2003) 'On using ANT for studying information systems: a (somewhat) Socratic dialogue', In *The Social Study of Information and Communication Study*, edited by C. Avgerou, C. Ciborra, and F.F. Land, Oxford University Press, pp.62-76, 2004 [Republished in Livres/Books (XII)]

Week 3 (25 September): MUNDANE ARTEFACTS
[ATELIER D'ECRITURE]

Plan of the session: **This session will discuss the socio-technical approach by focusing on the role of objects and artefacts in social life. We will reflect on concepts and descriptive approaches used by the sociology of mundane artefacts (the example of the Berlin Key). We will focus on the concept of 'mediation' and 'delegation' of action. The writing exercise will help us understand the difference between 'mediator', 'intermediary', 'script', 'prescription', 'affordance', 'program of action' and 'anti-program'.**

Assignment for the atelier: Describe a situation of using an object, artifact, device, or technology; focus on its agency and relational capacity; unpack the modalities of engagement with it, interactions and transactions. Try to be specific, base your text on experience (personal or collective), NOT on general reflections on the role of objects in design and dwelling practices. **Send your text (500w max) directly to Albena (without sharing it with anyone else) by 24th of September (5pm).**

Readings:

Latour, B. (1991) 'The Berlin Key or How to Do things with Words', In P.M. Graves-Brown (ed) *Matter, Materiality and Modern Culture*, Routledge, London pp. 10-21.

Gibson, James J. (1979) 'The Theory of *Affordances*'. *The Ecological Approach to Visual Perception.* Boston: Houghton Mifflin. ('affordance' pp. 127-128 and pp.133-134)

Akrich, M. (1992) 'The De-scription of Technical Objects', In *Shaping Technology/Building Society: Studies in Sociotechnical Change*, eds. W.E. Bijker & J. Law, pp. 205– 224. Cambridge, MA: MIT Press. ('script' pp. 201-211)

Week 4 (2 October): INNOVATION

Plan of the session: This session will discuss the socio-technical approach to innovation. Drawing on a range of examples, we will demonstrate how society is built by things – IT technologies, trains, telegraph cables, cars, but also buildings and infrastructure. Different technologies from ordinary bicycles, through to Bakelite and bulbs, and to advanced technological projects will be discussed; the process of innovation scrutinized, and the concept of 'project' and 'technological failure' unpacked.

Readings:

Akrich, M, Callon, M. and B. Latour (2002) 'The Key to Success in Innovation, Part I: The Art of Interessment', In *International Journal of Innovation Management* Vol. 6, No. 2 (June), pp. 187–206.

Bijker, Wiebe E. (1995) *Of Bicycles, Bakelites, and Bulbs: toward a Theory of Sociotechnical Change*. (Cambridge: MIT Press); Chapter 2, 'King of the Road: The Social Construction of the Safety Bicycle', pp. 19-100.

Latour, B. (1993) 'Ethnography of a "High-tech" Case: About Aramis', In Pierre Lemonnier (editor) *Technological Choices -Transformations in Material Culture since the Neolithic,* Routledge and Kegan Paul, pp.372-398.

Week 5 (9 October): TECHNICAL FAILURE

<u>Plan of the session</u>: This session will discuss success and failure in design. It will draw on studies of historians of technology on the diversity of everyday objects and the evolution of technology in terms of failure and success. We will also discuss the importance to study unsuccessful projects with the same degree of attention as the successful ones (in a symmetrical way), and their way of coming into being, whether they turn into utopian dreams or objects.

> <u>Readings:</u>
> Petroski, H. (1994) *Design Paradigms: Case Histories of Error and Judgment in Engineering*. (Cambridge: Cambridge University Press), Chapter 10, pp166-180.
> Norman, D. (1990) *The Design of Everyday Things*. (New York: Doubleday); Chapter 1 'The Psychopathology of Everyday Things', pp. 1-34.
> Petroski, H. (1992) *The Evolution of Useful Things,* NY: Vintage Books, A division of Random House, Inc.; Chapter 2 'Form Follows Failure'.
> Law, J. (1987) 'Technology and Heterogeneous Engineering: The Case of the Portuguese Expansion.' In Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch, eds, *The Social Construction of Technical Systems: New Directions in the Sociology and History of Technology* (Cambridge), 111–34.

Week 6 (16 October): DESIGN *qua* Verb
[ATELIER D'ECRITURE]

<u>Plan of the session</u>: This session will shift the attention from design as product, to design as practice. This will require tracing ethnographically the complex socio-spatial coordinates of design venture through the daily work of architects, planners and their technologies, as well as producing narrative and visual accounts of the contingency of design practice. We will reflect on the use of ethnography as a method for tracing architectural and planning processes.

<u>Assignment for the atelier:</u> Describe your process of design. Try to capture design *qua* verb, or, designing: Where are you? What do you do? Who else is there in addition to you? What happens in the spur of the moment? Who participates and how? Who acts? What are the different events, temporalities, and spaces? Try to be specific, base your text on your own experience or the observation of another designer/creative practitioner, NOT on general reflections on the process of design/planning. **Send your text (500w max) directly to Albena (without sharing it with anyone else) <u>by 15th of October (5pm).</u>**

Readings:

Sennett, R. (2008) *The Craftsman*. New Haven, CT: Yale University Press; Chapter 9 'Quality-Driven Work', pp. 241-267.

Till, J. (2008) 'Three Myths and One Model', In *Building Material* 17: 4-10.

Jacobs J. and Merriman P. (2011) 'Practicising Architecture', special issue of *Social & Cultural Geography*, Vol. 12, No. 3.

Yaneva, A. (2005) "Scaling Up and Down: Extraction Trials in Architectural Design," In *Social Studies of Science*, 35(6): 867-894.

Week 7 (23 October): DESIGN ARCHIVE *qua* VERB
[ATELIER D'ECRITURE]

Plan of the session: This session will shift the attention from archive as a source, to archive as practice. We will examine the situated and local practices of arranging, cataloguing and taking care of archival objects in architecture and how they all happen to produce larger structuring effects in collections. We will address critically issues of architectural legacy and the traditional understandings of star-authorship, placing the architect or the curator in the limelight of History. We will advocate a more comprehensive approach to archiving that includes a range of unheard voices – both human and nonhuman.

Assignment for the atelier: You will work in pairs to visit (virtually or in person) an architectural/planning firm or an archive and conduct research on their archival practices. Please, 1) Collect information from online and library sources; 2) Gather image materials to illustrate the process of archiving and collecting; 3) If possible, conduct short interviews with people on site; 4) Write a short story together with your partner (700w max) about the process of archiving and its connections to design/designing. Reflect critically on the afterlife of architectural objects and the archival strategies of the firm or the collecting institution you have chosen. The stories will be read in class, and you can use max 10 slides/images to accompany the reading.

Readings:

Derrida, J. (1995) 'Archive Fever: A Freudian Impression.' Translated by Eric Prenowitz. In *Diacritics 25 (2): 9-63.*

Wigley, M. (2005) 'Unleashing the Archive.' In *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 2 (2): 10-15.

Yaneva, A. (2020) *Crafting History: Archiving and the Quest for Architectural Legacy,* Ithaca and London: Cornell University Press; Introduction: 'The Secret Life of Architectural Objects', pp.1-24.

Week 8 (30 October): OBJECT-ORIENTED POLITICS

Plan of the session: The session will discuss issues around politics of infrastructure and object-oriented politics. To prepare you should read the essay of Winner (1980). In class we will watch the documentary *Misleading Innocence: Tracing What a Bridge Can Do*, CCA (2014). We will debate the following two questions: 1. Is the film *Misleading Innocence* a good presentation of Landon Winner's argument on the politics of artefacts (if so, why? if not, why?) 2. If you were commissioned to do this documentary, how would you do it and how would you approach the theme of politics of architecture?

> Readings:
> Winner, L. (1980) 'Do Artifacts have Politics?', in *Daedalus*, Vol. 109, No. 1 (Winter), 121-36. (focus in particular on pages 121-128)
> Jaque, A. (2020) *The Superpower of Scale*. New York: Columbia University Press; Chapter 5 'Politics Do Not Happen in Squares', pp. 168-182.
> Barry, A. (2001) 'Demonstrations: Sights and Sites' (Chapter 8), in *Political Machines*, London & New York: The Athlone Press, pp. 175-197.

Week 9 (13 November): DWELLING *qua* VERB
[ATELIER D'ECRITURE]

Plan of the session: This session will shift the attention from the functionalist concept of 'use' (and 'user') to using/inhabiting/dwelling as a process. We will develop an understanding of dwelling as the process of active settling in, transforming, appropriating, adjusting, and living with the varying materiality and programs of a building/urban environment. 'Dwelling' will be unpacked here as the activity of worldmaking through active participation in the shaping of material form through inhabitation.

Assignment for the atelier: Write a mini photo-essay to describe how you inhabit a space (domestic, university, leisure, public). Talk us through the process of 'dwelling': What happens? Who is there? What/who acts, interacts, transacts? In what times? Where? How? Add visuals in a clever way! **Send your text (500w max) directly to Albena (without sharing it with anyone else) by 12th of November (5pm).**

> Readings:
> Ingold, T. (2000) 'Building, dwelling, living: How animals and people make themselves at home in the world', In *Perception of the Environment: Essays on Livelihood, Dwelling and Skill*, London: Routledge, pp. 172-188.

Brand, S. (1994) *How Buildings Learn: What Happens after They're Built,* New York: Viking; Chapter 'The Study of Buildings in Time', pp. 427-450.
Strebel, I. (2011) 'The living building: Towards a geography of maintenance work', In *Social & Cultural Geography*, 12(3), pp. 243-262.

Week 10 (20 November): TRACING CITIES
[ATELIER D'ECRITURE]

<u>Plan of the session</u>: **This session will discuss a pragmatist approach for the study of cities. We will argue that a better understanding of cities could be gained by literally keeping our compass sights on the paths through the city, following the routes that link humans with the material and natural world, the subjective with the objective, the built with the unbuilt, the small with the big.**

<u>Assignment for the atelier:</u> To prepare for the session, please 1) Read selected parts from Sorkin or Latour (details below); 2) Extract key arguments on the authors' understanding of the material culture of cities and urban technologies. Pay attention to Sorkin's way of writing about NYC and Latour and Hermant's writing about Paris; 3) Choose one city or neighborhood to describe/trace. Stroll there for 20mins; 4) Write a mini essay à la Sorkin or à la Latour & Hermant. **Send your text (500-1000w max) directly to Albena (without sharing it with anyone else) <u>by 19th of November (5pm).</u>** The best essays will be read in class.

> <u>Readings:</u>
> Sorkin, M. (2009) *Twenty Minutes in Manhattan*. New York: Reaktion books; Chapter 'The Stairs' pp. 9-67 (focus on pp. 9-29) or 'The Stoop', pp. 67-79.
> Latour, B. & E. Hermant (1996) *Paris, Invisible City,* Paris: Les empêcheurs de penser en rond. [Read 'Distributing', pp 62-71 in combination with the visuals in the virtual book: http://www.bruno-latour.fr/virtual/index.html]
> Calvino, I. (1974) *Invisible Cities*. New York: Harcourt Brace Jovanovich.

Week 11 (27 November) – PRESENTATIONS OF FINAL PROJECTS