

PANORAMAS OF CINEMA

A workshop for students of architecture and other non-disciplines

"Bacteria, fungus, whale, sequoia, we do not know any life of which we cannot say that it emits information, receives it, stores it and processes it. [...] Crystal, indeed, rock, sea, planet, star, galaxy: we know no inert thing of which we cannot say that it emits, receives, stores and processes information. [...] Individuals, but also families, farms, villages, cities, nations, we do not know any human, alone or in groups, of which we cannot say that it emits, receives, stores and processes information."

Michel Serres, 2014. Information and Thinking.

"And here, [at the play of sympathies] no path has been determined in advanced, no distance laid down, no links prescribed. Sympathy plays through the depths of the universe in a free state."

Michel Foucault, 1966. The Order of Things.

"What we call scientific knowledge today is a body of statements of varying degrees of certainty. Some of them are most unsure; some of them are nearly sure; but none is absolutely certain. Scientists are used to this. We know that it is consistent to be able to live and not know. [...] I always live without knowing. That is easy. How you get to know is what I want to know."

Richard Feynman, 1953. The Meaning of it All.

"The question is only whether we wish to use our new scientific and technical knowledge in this direction, and this question cannot be decided by scientific means; it is a political question of the first order and therefore can hardly be left to the decision of professional scientists or professional politicians."

Hannah Arendt, 1958. The Human Condition

ABSTRACT

Panoramas of Cinema celebrates the abundance of movies available online and the machine intelligence to operate them. This workshop deals with hundreds of thousands of frames from hundreds of movies so as to construct private and personal panoramas. The intent is twofold: to cultivate the programmatic operation of large amounts of frames and dialogues extracted from movies, and to put together printable artifacts that render an architectural articulation.

Panoramas of Cinema is for students of architecture and other non-disciplines who would like to celebrate and challenge the abundance of information online and its algorithms, and explore the narratives engendered by this novel interplay. There are no special requirements to join the workshop other than to have a laptop with an internet connection.

THE WORKSHOP

We live in a connected world as we have a computer online in our pockets. Over the internet, we talk to each other. We search on Google for references and share on Facebook what we find interesting or entertaining. These online applications listen to what we, the users, have to say and use machine intelligence to deal with it. They create panoramas of all of us, and with them, they try to make our life pleasant and easy, either suggesting who we should meet up with this weekend or whom to vote for in the next election. This workshop is about the same machine intelligence but from a private and personal position.

Few prominent architects seem to have a position on this novel scenario. The 2014 Venice Biennale of Architecture curated by Rem Koolhaas did not affirm today's connectivity, even when putting together its main exhibition, *Elements of Architecture*, in such timeframe and without a web search engine sounds just unfeasible. Patrick Schumacher edited in 2016 AD's *Parametricism 2.0: Rethinking Architecture's Agenda for the 21st Century*, where he re-launches Parametricism as the style of computer power, without touching on questions of computer connectivity. In architectural research, machine intelligence is coupled with concepts of optimization, efficiency, sustainability or "smart-ness" to solve problems of design, blurring differences between architectural and engineering questions. This workshop is about engendering new scenarios for architecture by celebrating online information and domesticating machine intelligence. It probes a simple but capacious hypothesis: panoramas are a new kind of richness, as they invite us to rethink the meters with which we measure and the values that we place in architecture today, and pushing it further, to reconsider what is to be an architect in the 21st century.

The richness of Google and Facebook can be private and personal as well. When we ask a question to a web search engine, we get a list of indexes with probable answers: a view of its panorama. In principle, the same information is directly in our pockets, it is constantly circulating online, and the algorithms to source it and operate it are also there for us to domesticate. But if panoramas can also deal with our personal indexes of the world—if we can put together "private Googles"—a relevant question emerges: what do we want to take care of in this new fertile ground, and what do we want to celebrate and challenge? This workshop is about getting rich on cinema as we affirm that architecture can be informed by it. Cinema can talk to us about architecture.

Cinema has always talked, though. As early as the 1920s, Lev Kuleshov wrote and practiced the techniques of filmmaking that help the viewer to listen to what film directors have to say with the greatest effect. And in architecture, the list of theoreticians and philosophers dealing in the last decades with aspects of film and filmmaking is long. What's different then? The difference is that

we don't have to focus on one aspect only—on one epoch, film director, or genre—we can deal with all of it at once. We will work with the movies that have already talked to us and with those that haven't yet. We will discretize, model, fold, turn, and zoom them all at once. We will ask them something about our world, and they will talk. Be it 20, 100, 500 or 1000 films, the limit is only our database and laptops. The richer our panoramas, the more probabilities we have to be informed and have interesting talks.

Outside the panoramas there's a world of paradoxes, this is clear for contemporary physics. The double-slit experiment tells us that the mere act of observing changes the behavior of our reality. That we either operate within the probabilities of an event to occur or deal with the paradoxes that an observed event entails. What we call reality cannot be fully held. This workshop touches on this phenomenon. With our panoramas of cinema and the machine intelligence, we deal in probabilities with the abundance of movies available online; with our printable artifacts and our human intellect, we step out of the panoramas and exercise directional talks. We address specific questions and rearticulate architectural concepts, beyond computing. It's us who have to argue for our ideas and desires. So, let's get rich on cinema and talk about probable and beautiful projections.

THE PROGRAM

The duration of the workshop is flexible, something between four and seven full-day sessions, and it is roughly divided into five parts.

1. Discretizing a movie into frames.

We will put together toy examples to convert a movie file into relevant image files. The extraction of frames will be based on periodic counts, subtitles, and scene cuts. We will treat a 90-minute movie as 1,000 frames.

2. Operating the frames.

We will put together toy examples to detect faces, classify scenes, and model subtitles. These examples implement machine learning algorithms used by prominent online applications like web search engines, social networks, and content sharing platforms to deal with online information.

3. Constructing panoramas from many movies.

We will personalize ready-made notebooks to produce panoramas from many movies. The participants will deal with movies from a provided database and from others of their choice. The only limit to the produced panoramas is the performance of the participant's laptop.

4. Navigating the panoramas.

We will personalize ready-made notebooks to place new images or text within the panoramas. The participant will see what can be learned from the panorama's neighborhoods or what new narratives and stories can be explored from this plenty-ness.

5. Stepping out from the panoramas.

The participants will put together printable artifacts to render their moods, interest or questions. This last part is beyond the automatic production or generation, and they will use the software of their choice to put together a 200+ pages PDF.

The programming language is Python, and the environment is Jupyter Notebook—both open source and developed by a robust community. Throughout the workshop, there will be complementary talks about key concepts that will support the creation of the participant's consistent and printable artifacts.

THE REQUIREMENTS

The only requirement of participation is to have a laptop with internet connection and some GB of free space. A database of movie frames will be available on a local server as well as other necessary software.

THE AUTHOR

Jorge Orozco is a researcher and lecturer at the Chair for CAAD in the ETH Zurich's Department of Architecture, from which he obtained his Dr.Sc. degree. He is fascinated by the new abilities that traditional objects—like a picture, a book, or a movie—gain when they're online, and by the computer code that deals with these objects in large quantities. As someone who cares about architecture, Jorge likes to write and code on this novel phenomenon and on the challenges and fantasies that it presents to the tradition. Over the past years, Jorge has taught a number of elective courses where he shares his work with bachelor and master students from the department.

Jorge was a guest researcher at the Future Cities Laboratory in Singapore. He holds a Master in Advanced Architecture degree with specialization in Digital Tectonics from IAAC, Barcelona, and a Master in Advanced Studies degree from ETH Zurich. He graduated from the UMSNH's Faculty of Architecture, Mexico.