transformations brought about by postwar reconstruction and demographic growth required a massive expansion of the secondary education system, and prefabrication was to play a decisive role in achieving this expansion. The scale and urgency of the undertaking often dictated solutions inspired by industrial processes to produce experimental educational facilities designed to be systematically replicated. St Crispin's School in Wokingham, built in 1953, is prototypical of this approach; a demonstration off how to meet cost ceilings and execution times with industrial materials. The modularity of the prefabricated structure articulated traditional superimposed classrooms with more open workspaces suitable for practical learning.

#### **Participation and Production: Building Site and Seminar Table**

What should be the models of production of learning environments: typify and prefabricate or make them all singular but based on available local knowledge and materials? And how to actively listen to the diverse and inclusive voices of adolescents and make them participants in the production of their learning environments? How to bring this partially disenfranchised part of the citizenry back to the table? And how to bring the table, the dialogical seminar table, back to an electronically diffuse classroom? How to make these socio-technical environments more equitable, inclusive, balanced and welcoming to the multiple diversity that they already embody.

## embodiment

Adolescence can be described as the movement through which an organism is organized, both on the sense of a process of growth and in the sense that an organism is placed and assigned a role in a wider human collective; and the school can be seen as the ecosystem that frames this transition. Roland Bechmann's agricultural high school in Avignon is emblematic of these two scales of growth: the body of the adolescent who is welcomed, nourished, and educated to grow into an adult, and a group called upon to constitute a productive body at the service of industrialized societies.

#### **Embodied Energy and Nourishment: Laboratory and Nursery**

Attention to ecology, food production, circular economy, and a systemic understanding of the classrooms as an intertwined network will increase the resilience and the overall awareness of the energy footprint of the architectures of learning. Short farm to table food cycles, or edible schoolyard to lunchroom table cycles, improve diet, decrease food waste, and water consumption and cut greenhouse gas emissions. Renewable materials like wood, collection and use of rainwater or ecological sewage treatment systems,

are some of the ways in which educational environments can be object lessons in the making of a present that does not compromise the future.

## assembly

enough to vote, is central to the politics of the second half of the 20th century, structured by high school revolts which sometimes join wider contestations, and sometimes precede and trigger them. The constitution of adolescence as a political body is carried out through the places where teenagers gather, mainly the street, but also leisure and learning spaces. The polygonal aula of the Geschwister-Scholl-Gesamtschule in Lünen, completed in 1962 by Hans Scharoun, is one of those utopian spaces that inscribe a democratic and collective use in the form of a building.

#### **Assembly and Protest: Parliament and Street**

The assumption that adolescence is autonomy without representation is evidently in crisis. Teenagers no longer wait for the voting age to make their voices heard, and secondary education is the place and the moment to assemble, to protest, to occupy, to self-manage. The positions of bodies in the assembly hall still organize the political spectrum, but new modes of organization and politicization are migrating to the classroom, and some are learned there. And how are the classrooms occupied, and how do learning spaces change the ways of protesting, and assembling? And how the street becomes a parliament between the classrooms?

# transgression Art education can sometimes constitute a counter-field

to conventional teaching, and the spaces it occupies, like workshops, amphitheaters, or music rooms, can become islands of freedom and expression in these ecosystems, and even spaces of transgression and civic disobedience. This is the case of the Calouste Gulbenkian Conservatory in Aveiro, built in the 1960s based on Maria Noémia Coutinho's thesis elaborated under the supervision of Carlos Loureiro, the architect commissioned for it. As one of the areas that evaded strict governmental control, this was as island of freedom built around disciplinary plurality and a big room with a central fireplace.

#### **Transgressing Limits and Norms:** Atelier and Concert Hall

Art education can sometimes constitute a counter-field to conventional teaching, and the spaces it occupies, like workshops, amphitheaters, or music rooms, can become islands of freedom of expression, and spaces of transgression and civic disobedience. Transgressing, constantly question and challenging the status quo, and the limits and norms it imposes, is indeed the sole way for the classroom

to become a space for the practice of freedom. But evading its limits and its normativity requires intense self-questioning about how to remap the fluid and dematerialized borders of the classroom, or how to indiscipline the blurring of the limits between disciplines.

## profession

High school, divided between the mission of preparing to higher education and that of producing workers adapted to the labor market, continues its slow mutation. It is trying to keep up with the emergence of a digital economy, while remaining faithful in its modernist attire, striving to adapt its analogical spaces to these new virtual missions. The Jean Mermoz professional high school in Béziers, designed in the 1950s by Pierre Jeanneret with Jean Prouvé and Charlotte Perriand, is symptomatic of this evolution: a formidable modernist tool, perfectly adapted to an industrialized society, negotiating its passage to the post-industrial digital age.

#### Learning to Work: Office and Workshop

The social role of secondary education, shaping young people into functional adults, as bifurcated between a portal for higher education and the more urgent gateway to a well prepared and adaptable workforce provided by professional schools. Paradoxically, work appears to change even faster than education, and here we will inquire into the impact of this intimacy, and often even mimicry, between the classroom and the workshop or the office. It is important we ask how the future of work and the future of technical education reorganize each other? And how was professional education reorganizing the relations between work and education?

Joaquim Moreno

#### Classroom, a teenage view

exhibition curatorship: Joaquim Moreno This exhibition is a coproduction between arc en rêve centre d'architecture CCB Garagem Sul (Lisboa, Portugal), Z33 House for Contemporary Art, Design & Architecture (Hasselt, Belgium).

Joaquim Moreno (Luanda, 1973) is an architect,

graduated from the Faculty of Architecture of the

from the Escuela Técnica Superior de Arquitectura

de Barcelona and a PhD from Princeton University

He curated, with José Gil, the Portuguese Pavilion at the Venice Architecture Biennale in 2008,

and with Paula Pinto, the exhibition Carlo Scarpa.

Túmulo Brion. Guido Guidi at Garagem Sul in

the Belém Cultural Centre in 2015.

He is the author of The University on Air:

Broadcasting Modern Architecture, a book

accompanied by an exhibition at the Canadian

2018. He has also edited, with Paula Pinto and

regularly to national and international publications.

Centre for Architecture (CCA) in Montreal in

Pedro Bandeira, the magazine InSi(s)tu, was

contributor of Jornal Arquitectos and writes

University of Porto. He holds a Master's degree

He teaches at the FAUP, Architecture School

at Porto University and at the Architectural

Association in London (AA).

### exhibition

13 10 2022  $\rightarrow$  12 02 2023 opening lecture 13 10 2022, 6:30 pm

The videos featured in the exhibition can be seen on the YouTube channel of arc en rêve

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Since 1981 arc en rêve centre d'architecture has elaborated a cultural awareness-building strategy focusing on contemporary architecture and extending into city planning, landscape design, aimed at broadening perceptions of a changing world. Its internationally recognised programme features exhibitions, lectures, public discussions publications, workshops for children. seminars for adults, visits to buildings, city tours, and planning experiments.

The idea for Classroom, a teenage view was inspired by the dire condition of a generation that had to experience the transition to adulthood during a pandemic. The experience of confinement with respect to learning was paradoxical: it transformed the students, who were forced to study from home, without really modifying their learning spaces, which remained unchanged when they returned to collective education.

Two years were enough to create a gap between needs and reality. This archaeology of adolescence was organized through the dominant tool that shaped it in the second half of the 20th century: the classroom.

How were these spaces designed? How were these learning communities generated? To what cultural and social ecosystems are they subjected? What made them into political bodies? How have standardisation and transgression shaped artistic education? How does vocational education reorganize relationships between work and knowledge?

The chapters of the exhibition echo these questions: Production, Embodiment, Assembly, Transgression and Profession.

Each of these chapters refers to an emblematic built example, still in use today, which represents a cluster of adolescent perspectives. Added to this diverse testimony is a material history of how classrooms have evolved. The tangible elements that make up this narrative architectural culture records these events and, on the other, the close connection that is established between the subjectivity of learning and the spatial realities through which learning is accomplished.

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