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Faculty of Landscape Architecture, Horticulture
and Crop Production Science

Studio culture

Settings, practices, and myths of design education

Andrea Conti

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Studio culture. Settings, practices, and myths of design education

Abstract

Design studios are changing. The Covid-19 pandemic was just an acceleration in reconsidering both spaces and practices of design education. Structural shifts had already occurred in the past with the implementation of digital tools, the internet, or, more recently, with the use of artificial intelligence as a design aid. Despite this, many scholars continue to view the design studio as a fixed model rooted in European and North American traditions, with its own studio culture, which is essential for training designers. Little critical inquiry has been devoted to discussing the history of the design studio and its culture. Gaining a historical perspective is crucial for understanding how design education, through its settings, practices, and representations, evolved around the idea of the design studio. Analyzing the role of these settings, practices, and representations in shaping studio culture is the goal of this thesis.

The thesis provides a diachronic study of design education in key institutions—the École des Beaux-Arts, Arts and Crafts schools, the Bauhaus, and North-American design programs. It examines how the interplay of spatial environments and social dynamics of design education evolved between the mid-19th and mid-20th centuries. By analyzing histories of studio life, the thesis explores how spaces, tools, social interactions, and training practices have influenced contemporary teaching methods in design education. The conclusion shows that studio culture could be understood as something fixed. At the same time, it argues that it should also be understood as a living construct, continuously shaped and challenged by social, technological, and institutional change. This thesis aims to contribute to the ongoing discourse on studio culture. Examining design education settings, practices, and representations, it offers a historical perspective on their cultural significance while fostering a more reflexive approach to emerging pedagogical challenges.

Keywords: studio culture, design studio, design education, architectural education, practices, studio settings, studio myths, design pedagogy.

Studiokultur. Miljöer, praktiker och myter om designutbildning

Abstract

Designstudiokulturen håller på att förändras. Covid-19-pandemin var en påskyndande faktor i förändringen av såväl miljöer som praktiker inom designutbildning. Strukturella förändringar hade redan tidigare ägt rum, med implementeringen av digitala verktyg, internet, eller, mer nyligen, artificiell intelligens som ett hjälpmedel för design. Trots detta betraktar många forskare studioundervisningen som en fast modell med sina rötter i europeiska och nordamerikanska traditioner, och med sin egen studiokultur som nödvändig för utbildning av designers. Designstudiokulturens historia har inte ägnats kritisk granskning i någon större utsträckning. Ett historiskt perspektiv är avgörande för att förstå hur designutbildningen, dess miljöer, praktiker och representationer, har utvecklats runt idén om designstudion. Avhandlingens mål är att analysera den roll som dessa miljöer, metoder och representationer haft i utformandet av en designstudiokultur. Avhandlingen presenterar en diakronisk studie av designutbildning vid nyckelinstitutioner—École des Beaux-Arts, Arts and Crafts-utbildningar, Bauhaus och nordamerikanska designutbildningar. Den undersöker hur samspelet mellan rumsliga miljöer och designutbildningens sociala dynamik utvecklades mellan ca 1850 och 1950. Genom ett historiskt perspektiv utforskas hur miljöer, verktyg, sociala interaktioner och praktiker påverkar samtidens studioundervisning. Slutsatserna pekar på att designstudiokultur skulle kunna förstås som något fast, samtidigt som det är en levande konstruktion, som ständigt formas och utmanas av social, teknologisk och institutionell förändring. Avhandlingen syftar till att bidra till den pågående diskursen om studiokultur. Genom att undersöka designutbildningars miljöer, praktiker och hur de representeras, ges ett historiskt perspektiv på deras kulturella betydelse, och främjar ett mer reflekterande förhållningssätt till framväxande pedagogiska utmaningar.

Keywords: studiokultur, designstudio, designutbildning, arkitekturutbildning, praktiker, studiomiljöer, studiomyter, designpedagogik.

Dedication

For my daughters.

This thesis is an answer to one of our bedtime reads.

One day, I had an idea.
"Where did it come from? Why is it here?"
I wondered, "What do you do with an idea?"

KOBI YAMADA, *WHAT DO YOU DO WITH AN IDEA?*

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Prologue: Three days in studio

Diary entry 01
Ravenna, October 12, 2010
Today marked the beginning of my second week in the first-year graduate studio of the Master of Urban and Building Engineering program at the University of Bologna. It was the first day of *revisioni*, which is Italian for "desk-critiques," where we discuss our preliminary project ideas in one-on-one conversations with the instructors. I have always felt uniquely engaged during these close interactions with the instructors. Unlike lectures and seminars, desk critiques require active participation from students, who must show their work and ideas for the instructor to critique. Today, however, things ended up differently. It was an upsetting experience, and I came home questioning the purpose of this unusual practice. I do not think I am motivated enough to continue this project.

By 9:00 a.m., I had arrived and settled at a desk, waiting for the instructor and his teaching assistants, as had many others. While my friends in the Architecture program get their own desk for the whole semester, this studio uses a hot-desking system. Desks are assigned on a first-come, first-served basis. So, the morning rush to take the best spots is quite common. Luckily, I found a spot close to a power outlet—the first thing students really look for in a classroom. Outlets are essential for charging electronic devices students use during the day, such as laptops, cell phones, and MP3 players. Since the school furniture is old and designed for an analog use, there are only a few outlets around the perimeter of the classroom. On my desk, I placed my brand-new laptop. I bought it at the beginning of the program to reward myself for completing my bachelor's degree. I also bought a drawing tablet with a digital pencil that allows me to draw directly on the screen. This eliminates the need for tracing paper, pencils, and scanning to digitize my

drawings. I have been practicing with it for about two weeks, and for today's critique, I prepared my sketches using the tablet. I had them open on the screen while the tablet was plugged into the laptop. Since it is an unusual tool, it caught the attention of a few curious classmates. Like a child with a new toy, I showed them some tricks by drawing lines on the screen and then let them try it for themselves.

When the instructor and his assistants arrived, they found a small, noisy group gathered around my desk. They came to my desk, drawn by the new tablet. The instructor asked me to let him try the tablet, seeming amused. He started drawing some shaky lines. But when he realized that my drawings for the day were on the screen only and that I had no paper on my desk, his expression changed. He thanked me and returned my pencil. Then he turned to the whole class and clearly stated that only those who had printed materials on A3 paper or larger could participate in the desk critiques. He continued with a more detailed explanation of why he thought discussing drawings on paper allows students to learn and understand more. But before he could finish, I was already out in the corridor, running toward the computer lab where the printing room was located, to print my drawings.

I spent about two hours trying to transfer the drawings to one of the desktop computers connected to the printer. When I finally ran back to the studio, holding my prints, the session was almost over. I was the last one there, and I had missed all of my classmates' desk critiques.

When the instructor came to my desk, I had just put away my tablet and laptop and placed the printed drawings on the table. With a severe gaze, the instructor said he had been waiting for me and pointed out that I had missed part of his earlier explanation about using physical drawings during the desk critique. He discussed the materiality of the paper, the significance of each pencil mark, and the importance of sharing sheets of papers on which the teacher and the student could draw and explain their ideas. But while he was talking to me, his eyes were scanning my desk as if he was looking for something other than the printed drawings. Then he looked at me and asked, "Well, are you coming to the battle without your sword? Where is your pencil?"

I panicked when I realized that I had left my pencil case and the rest of my drawing material at home. I said something under my breath while looking for a pen in my laptop bag. I got so nervous that I do not remember much of what he said about my project idea. Instead, I got distracted by his

pencil, and the way he sketched over my drawings. He held a burl wood clutch holder with a thick and soft lead. His hand moved quickly and with confidence, leaving clear dark marks on the paper. I followed his gestures even when he was not drawing but instead used the pencil and his hands to explain his points or ask questions about the drawings.

During the whole crit, I kept my hands under the desk, rolling a short unsharpened and bitten 2HB pencil. It was the only pencil I had found in my bag. In the end, not much of the old drawings was left. All of a sudden, he looked very friendly and started smiling. “How are you, Andrea? Do you feel like you have everything you need to keep working with your project?” I nodded, although this time, I did not know how to do it. I stayed in my seat at the desk and looked at the drawings until everyone else left the studio. I took out my compact camera and took a few pictures of the drawings. I usually do this when I do not want something to get lost in the clean-out at the end of each course.

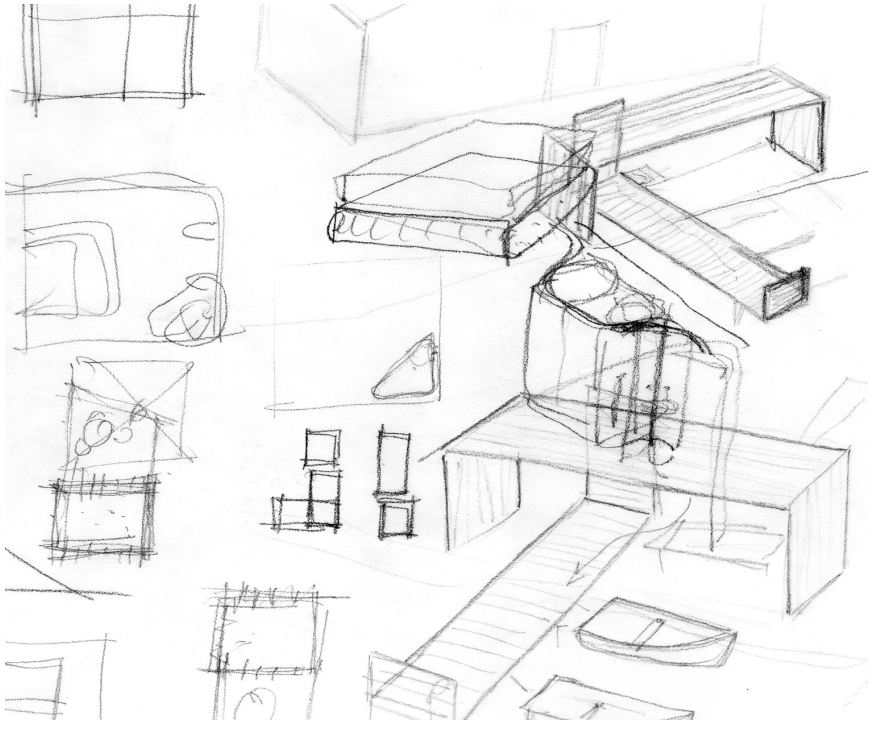

Figure 1. A photograph from the drawings I discussed with the teacher during the desk crit. The darker and thicker traces were left by the teacher on top of my printed drawing. (Drawing by author.)

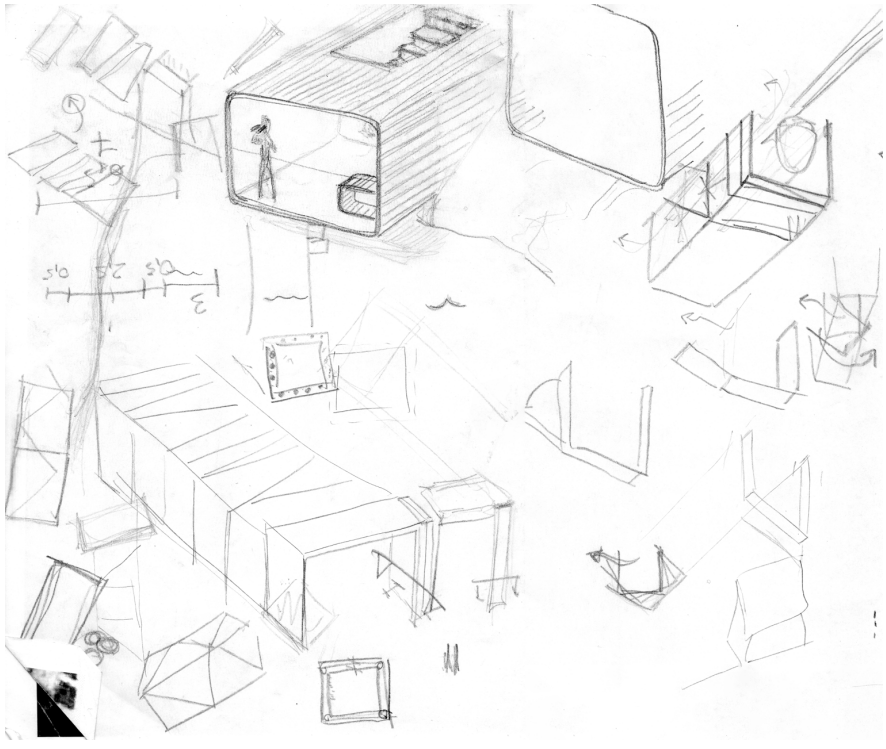

Figure 2. A photograph from a second drawing I discussed with the teacher during the desk crit. His sketches and annotations are upside-down, as he was sitting in front of me. (Drawing by author.)

On the train on the way home, I thought again about what happened in the morning. I thought about what the instructor said about not having printed drawings, about our exchange as a battle, and the pencils compared to weapons. I was confused about why he chose such a metaphor. The instructor also seemed reluctant to use new technology. Maybe it was not because he was old-fashioned, but because he seemed to have more control over his pencil than I did with my new digital tablet. If they had to duel, the professor knew how to use his "sword" better than the students. The duel recalls a battle for survival, that admits only defeat or victory. But this was more than just showing and learning new skills. It also seemed like an attempt to show who has more power, and it made me feel insecure.

What kind of learning could spring from these situations, and to what end? I usually feel inspired and motivated after talking with the teacher, but not this time. Does that mean I failed? Or had the instructor messed up? But

then again, there is no other course where the instructor is so close with the students. I do not remember any other course being like studios, where instructors could have a personal relationship with their students. I am writing these words while I should be thinking about this design project.

Diary entry 02
Eugene, June 15, 2013
The sign on the door is in bold and sounds heavy.

> "**STUDIO CLEAN OUT! All students must remove all personal belongings, empty and clean their desks, no later than June 16!**"

It seems like it wants to scare away all the memories of the past few weeks and to immediately end all the fun I have had since arriving at the Landscape Architecture Department at the University of Oregon. Today is the last day for students to clean up their desks, empty their lockers, and remove all their belongings and scrap from the studio course they just finished. Next week, a new studio will start here as part of the summer program and new students will be ready to occupy these desks. When I arrive at the studio in the afternoon, the room is already empty except for my desk. All of my classmates have cleaned up before me. As I gather my things and put them in my backpack, I think about the days I spent here, the people I met, and some of the moments I shared with them. It was such an intense and enriching experience, and I am grateful for what I have learned, the people I met, and the friends I made.
When I arrived here in late April (for my study abroad scholarship), the courses had already started. At my mentor's suggestion, I joined one of the design studios in the Landscape Architecture program because it had a couple of empty desks for this term. Although I was working on my own thesis and I was not officially part of the studio course, I found a homey and welcoming environment where students immediately made me feel like part of their group.

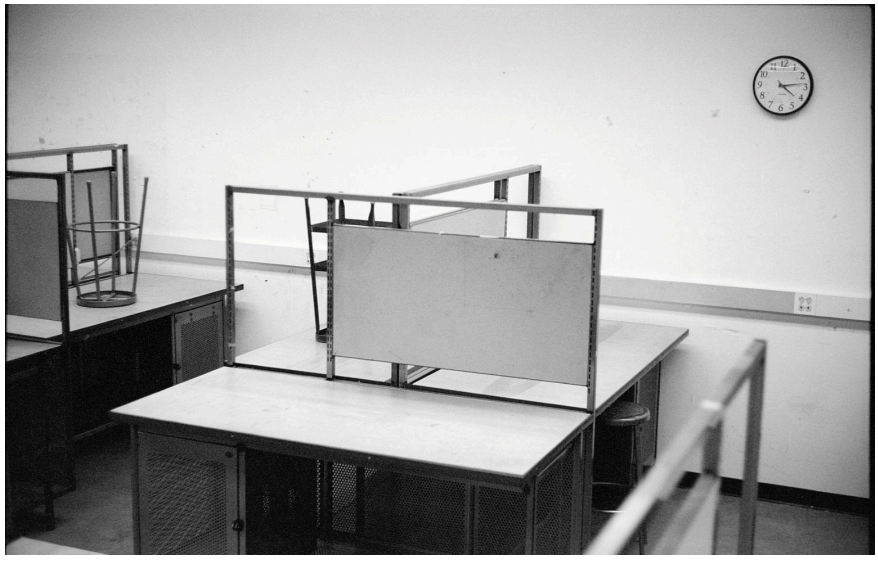

Figure 3. Empty desks in a design studio after student's clean out at the University of Oregon, Eugene. (Photo by alextoevs.)

I have such fond memories of the few weeks I spent in the studio. Every day, something new and memorable happened. The studio was like a second home to the students. I say this because I saw them treating it as such. Most of them used to arrive early in the morning, even if they did not have studio class that day. They used their desks as home bases, leaving their stuff and then going to classes elsewhere on campus. They could then come back at any hour, work on their projects, study other subjects, or simply have lunch or hang out with other classmates. Everything in the program seemed to revolve around the studio.

Each student had their own workstation, a desk with a tack board and a shelf, a stool, and a locker. They could personalize it as they wanted, bring their own furniture, such as chairs, table lamps, computer screens, and all sorts of comforts. I admit, some of them initially looked quite bizarre to me. For example, one girl had fixed an open umbrella upon her desk. I did not really understand how she managed to make it hang from the ceiling. She told everyone that she had found it there when she moved into the studio, but that it made her feel cozy. Another girl had put a carpet under her seat, and she only worked at her desk barefoot. One guy had his desk decorated with Christmas lights. For everyone, music and jokes were part of studio life, usually when the teacher was not there.

Apart from students' desks, for many years there has been a little common area with an old couch and a worn-out carpet. Students used this area a lot, to chill out and relax, or for some informal communication with the teacher. The original color was no longer discernible, and they seemed to have been there forever because of all the dust. But nobody paid attention to this detail. When I asked the students if they knew who had brought the couch and carpet there in the first place, no one knew. I even asked some of the oldest instructors, but no one seemed to have a clue about that.

One day, one of the girls brought her dog into studio. Although that was not strictly allowed, she let her sleep all day under her desk. She was so quiet that I did not even realize she was there until during the lunch break when other students and I were eating our lunch, and she tried to sneak out from her spot. Eventually, the smell of food had awoken her from her nap.

But that is nothing compared to that day I had to work late for a deadline with my thesis work. It was almost midnight, and I was about to call it a day when I heard someone snoring. I thought I was alone in studio that evening. I went to the couch and saw that it was empty. Eventually, I figured that the guy had fallen asleep under his desk. Over the next few days, I learned that this was not at all an uncommon situation for some of the students. Although there was no project deadline, some of them used to work late and sleep over in studio. That was something new for me. Back at my university in Italy, it happened only a couple of times that some other students and I had to work through the night for a project deadline. Here, however, it seemed like a common habit for some students.

I also learned that bonding with your peers is an essential part of studio life. Students could become like family. I exchanged contact information with some of them, and we planned to stay in touch. I learned a lot from them, just by sharing thoughts on projects and spending time together. I will certainly remember Noah and his indoor plants. Having such a passion for gardens and plants design, he could not escape always bringing part of his collection of indoor plants from one studio to another. Of course, his desk was always close to a window, and he placed all his plants there. He has relatives in Italy, and I invited him to stop by my place when he visits them next year.

Other students had their own qualities too. Leona and Ana were experts in watercolors, just like Gifford was a master of drawing with tracing paper and markers. Connor was a natural with his laptop. He had created his own

collection of silhouettes with all kinds of plants, people, and objects, to use in his projects. David taught me a lot about how to make 3d models with any sort of waste material. One day, when I went to visit him and his family in Seattle, I understood that he had learned a lot from his dad, who was an architect practitioner, and indoor furniture designer. His dad developed his own technique of working with scrap materials and waste.

None of these experiences would have been possible without Kellie, who is not only one of my classmates but also my roommate. She is such a cheerful girl! She was the one I was in contact with and the one who offered me a place to stay while I was looking for accommodations during the preparation for my study abroad program. I still remember when, during the first week I arrived, she organized a birthday party at her place and invited everyone from the studio. In this case, 'everyone' also included the instructor. I was surprised when, on the evening of the party, I answered the door and found the teacher from our studio standing there. I didn't know him that well at the time, but it did not take long to realize that he was beloved by his students and one of the most popular faculty members in the department.

It is incredible how many experiences one can have living in a studio for a few weeks. I think my mentor had a clear idea of what he wanted me to gain from this experience.

Diary entry 03

Uppsala (Ultuna) October 12, 2020

As I walk through Ulls Hus, the building where I am enrolled as a doctoral candidate in Landscape Architecture at the Swedish University of Agricultural Sciences, I see only empty classrooms. There are no students or teachers around. The only signs of human life are the occasional janitors rolling their carts through the halls. The design studio is empty too, except for a few drawings and projects still hanging on the walls and some old, dusty cardboard models left on the desks. Perhaps they do not want to throw them away and are keeping them as relics. Looking at the foliage in the courtyard is the only way I know that it is autumn, and it is not the summer break anymore. It is the middle of the semester. Where has everyone gone? They are sitting in virtual classrooms. In the era of the global pandemic, most campuses have closed. School has gone online.

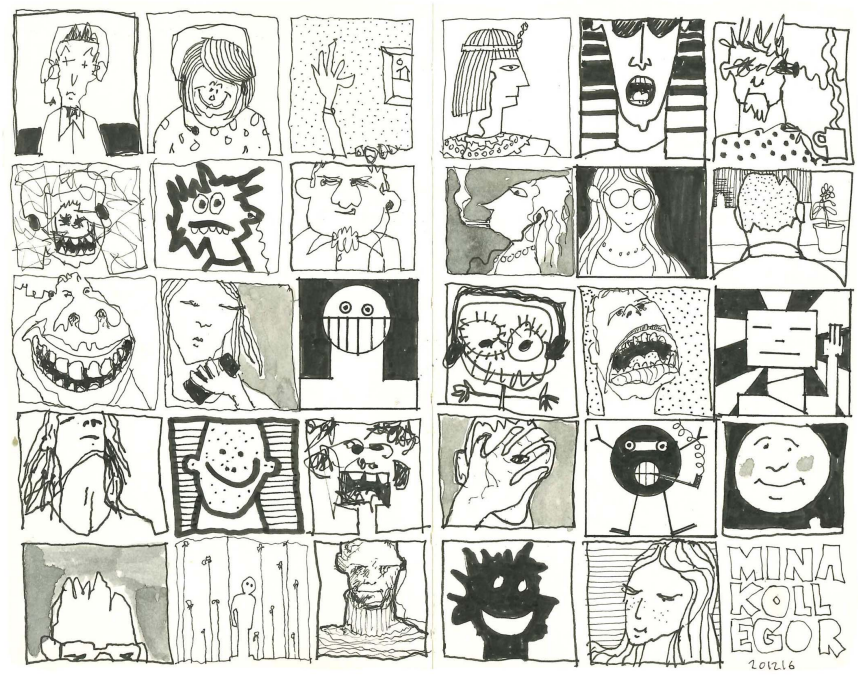

Figure 4. This sketch by Tomas Eriksson, a colleague in the department, portrays the shared experience of social life during the pandemic lockdown, including studio classes and meetings held online. (Drawing by Tomas Eriksson.)

I remember that studio course from before the pandemic. It was in the first year of the Landscape Architecture program where students had to construct cardboard models. They spent a lot of time cutting and gluing pieces of cardboard together at their desks. The studio instructor was always present, walking around the tables and helping the students while critiquing their work. To the students, she was an inspiring coach who taught the fundamentals of design studio practice. She believed in the "old tradition" of the studio, in the culture of learning by making, and in handcrafted work over computer modeling.

As I passed by her studio, I recalled the conflict over space that had arisen among the faculty in my first year working there. In 2018, the faculty had to reevaluate both design studio and computer lab spaces due to the increased number of students enrolled in the program that year. The faculty had to make room for more workstations in the labs. During faculty meetings at Ulls Hus, some of the teachers wanted to put the new computers in the design

studio. This would have reduced the number of drafting desks for the students and splitting the studio into two equal parts: one with working stations, and one with drafting desks. I remember one of the teachers saying something like, “Students do not need to draw on tracing paper that much anymore, because that is not what they are asked to do in the professional practice nowadays.” The first-year studio teacher complained about that solution, arguing that “Students need space to make things with their hands in my studio! They need to learn hand drawing first!” Other teachers supported her complaint by observing that “Splitting the studio in two parts would only offer unequal opportunities for the students. The studio should offer the same tools for everyone.” They made similar complaints about the renovation of machines in the workshop. Some of the teachers wanted to replace woodworking machines and analog tools with more advanced 3D printers, and laser cutters. Others preferred that students learn the “old way.”

Debates like these have shaped design education since the 1990s. But less than two years later, those arguments seemed minor compared to the impact of the pandemic lockdown and the sudden shift to remote learning in spring 2020. At today's teachers' meeting, studio instructors were still fervently discussing the topic, but for different reasons. The focus of the conversations was one main question: “How can we teach studio courses without being in studio?”

Every teacher came to the meeting with their own questions and arguments, but this time they seemed very collaborative in trying to help each other to cope with their issues about studio courses. One teacher was concerned about how to teach students the various drawing and drafting techniques. She had brought an example of a new drawing tablet (one very similar to the one I had back during my master’s program) that could potentially be used to draw directly on screen during online meetings with the students. Many others seemed very interested, and they scheduled separate meetings to discuss this issue more in details and try out this new device. Another teacher was very concerned about cardboard model making in groups. Unfortunately, she decided to cut off this part of her course as it was too complicated for students to arrange for their own materials and tools without access to the shared equipment and lab workshop here in campus. Few other teachers seemed really concerned about first-year students missing their first experience with studio culture—the unspoken, hands-on learning, and the social environment that naturally develops in shared studio spaces.

I wonder how the pandemic might have affected my experience at the studios in Oregon, or the one-on-one critiques I used to have with my instructors in Bologna on printed drawings. What would be my understanding of studios if I had missed those experiences?
Today's design students certainly miss out on something important about studio experience when they attend online classes from their individual rooms. Questions that once seemed odd now feel urgent and relevant. Could this be the end of traditional design studio teaching?

1. Introduction

In 2020, the COVID-19 pandemic destabilized millions of people's everyday life and routines. As many governments decided for restriction policies and lockdown, people stopped commuting to work. Students had left their university campuses and schools empty.

This rupture also destabilized those disciplines whose teaching routines were practice-based and linked to specific spaces. Labs and studio courses, which require students to work close to each other in classrooms equipped with specific settings and tools, were disrupted by norms on social distancing. During that spring, in all the regions affected by the pandemic, design studio teachers were forced to react and adapt their way of teaching studio courses. Teaching moved online. And just as for other courses, new virtual platforms substituted the shared physical space of studios. Instead of settling in their school desks next to each other, and working side by side, students trained alone from home, sometimes from different times zones.[1] They could remain connected to one another by using laptops and smartphones, though being isolated in their own rooms.

Many teachers in the design disciplines expressed skepticism about teaching studio courses online. In their eyes, students' learning experience seemed incomplete, as the students lacked a common shared space where to physically interact with one another both during and in between class hours. Examples of reflections and worries about the future of studios can be found in online logs in *Places Journal*.[2] The words of a studio instructor from the United States represent the position held by many; studio life, he argued, cannot be reproduced online.

[1] Reinold Martin in Reinhold Martin et al., "Field Notes on Pandemic Teaching: 1," *Places Journal* Article's series (April 2020), https://doi.org/10.22269/200414.

[2] "Field Notes on Pandemic Teaching," *Places Journal* Article's series (April 2020), https://placesjournal.org/series/field-notes-on-pandemic-teaching/.

> I certainly miss the atmosphere of the studio, the sound of activity, the half-heard conversations, the general noise that isn't really noisy but comforting. Online teaching seems to flatten both excitement and worry, eliding tension and side-long glances. The spectrum of communication and connection feels incomplete. The culture of the studio is by no means perfect, yet I've sensed some nostalgia for it. I suspect I feel this myself.[3]

Other instructors described the studio as something necessary to provide students with an appropriate setting for their training. One wrote of how the shared environment of real studios was the only way to support studio life and sustain studio culture. This culture, she claimed, is not reproducible online; it is only possible in the physical space of a studio.

> Studio space is sacred space. We [teachers] hold it sacrosanct, essential to the transformation from novice to designer. It is the home-away-from-home of the design student, the charged environment where one eats and drinks, develops lifelong friendship, often sleeps, sometimes even studies. What happens in studio between classes, in the middle of the night, can be as essential as what happens during class—peer-to-peer learning, collective resources sharing, critical debate, stress releasing shenanigans—all supported, if not created, by a strong studio culture.[4]

In their comments, the design studio instructors seemed to reveal a clear picture of what a design studio is, what it should look like, and how it should function. Instructors portrayed the experience of studio spaces as something that cannot be omitted, replaced, or changed, and as the only way to support and create *the* culture of *the* design studio. For them, the studio was sacred space.

[3] David Smiley et al., "Field Notes on Pandemic Teaching: 4," *Places Journal*, ahead of print, April 2020, David Smiley in, https://doi.org/10.22269/200421.

[4] Linda C. Samuels Smiley et al., "Field Notes, 4."

1.1 The studio at stake?

With the consequences brought about by the pandemic, studio culture seemed to be at stake. Before that time, the shared physical space of studios had been the unquestioned primary setting where practices of design education developed. But the sudden lack of this setting during lockdowns required instructors to carry out studio courses in new ways, which were not able to provide students with the same experience of previous years. One instructor defined virtual studios as being "problematic," for their impossibility to reproduce training practices, like model making, in the online format: "Unwillingly, we have waived the requirements for model-making…without the ability to handle and touch the models, design discussion would be unsatisfying."[5] The lack of physical shared space deprived students of the experience of handling materials, and building physical models together.

For students during the pandemic, the experience of studio culture was not obvious anymore. Another instructor specified how experiencing studio culture depended on the presence of a physical shared space; he asked, "How then do we support studio culture where there is no physical studio?"[6] To others, studio culture was still discernible through the presence of domestic objects during online classes. Some teacher's notes from an online class session reported what laptops' webcams showed in the background of students' own rooms: "I notice a few new items: books, a fridge, an electronic keyboard, plants, and even a bed. We finally have studio culture!"[7] Yet, the same students were not able to share the more common social practices outside class hours, that used to build the sense of community of their studios, as "the community and sociability of the studio environment are hard to translate to the virtual space."[8]

Together, these experiences revealed an underlying uncertainty about what studio culture actually entailed. The culture of studios seemed to have been taken for granted in the past, as if it was implicitly part of the respective design disciplines' curricula. The move to online teaching highlighted a gap: implicit reliance on physical spaces has meant inattention to understanding what studio culture was made of, and what role it played in design education.

[5] Arda İnceoğlu in Smiley et al., "Field Notes, 4."

[6] Marc J. Neveu in Smiley et al., "Field Notes, 4."

[7] Iman Ansari in Reinhold Martin et al., "Field Notes, 1."

[8] Arda İnceoğlu in Smiley et al., "Field Notes, 4."

Ideas of studio culture revealed a tension. On the one hand, they addressed studio culture as settings—the arrangement of the training place, including both space and props such as furniture, and tools. Settings are the scene where students' actions take place. On the other, studio culture was also referred to as practices—the sets of actions and inter-actions that students and instructors perform both inside and outside curricular activities. This distinction between settings and practices provides a useful lens for unpacking how studio culture has been discussed and debated in scholarly works.

1.2 Studio culture as debated in the literature

A reading of works on design teaching highlights how the discourse around studio culture developed and took form. From the last quarter of twentieth century, instructors and scholars alike discussed studio culture as an essential component for educating design students. At the same time, there were also contributions acknowledging problematic aspects within the same culture, and the need to adapt its settings and practices.

Before the pandemic, design studio instructors expected students to experience studio culture as part of their training. Already from the 1970s, there was evidence of such discourses in academic publications. Scholars discussed studio culture—students' interaction in studios—as a substantial part of their learning process.[9] In an article published in 1982, architecture professor Donlyn Lyndon considered how the settings of studio spaces, with their props, also contributed to the making of studio culture.[10] The "physical settings" of design education, as part of a larger "studio culture," he claimed, create "exemplary situations" that shape students' lifelong approaches to work and learning.[11] Similar considerations came from professor of architecture Marvin Malecha, who discussed how creating situations for learning was about "setting a stage" for the students. For him, these could be achieved by reaching the right balance between "a course of study and a studio culture."[12] This latter, he claimed, included students' shared attitudes

[9] See the discussion in the design studios' case studies in Michael Pause's PhD Thesis, Michael Pause, "Teaching the Design Studio, A Case Study: MIT's Department of Architecture. 1865-1974." (Massachusetts Institute of Technology, 1976), 127a–127b, http://hdl.handle.net/1721.1/69250.

[10] Donlyn Lyndon, "Design: Inquiry and Implication," *Journal of Architecture Education* 35, no. 3 (1982): 2–8, https://doi.org/10.1080/10464883.1982.10758291.

[11] Lyndon, "Design," 8.

[12] Marvin J. Malecha, "Architectural Education," *Ekistics* 55, no. 328/329/330 (1988): 124.

and relationships, but also the physical environment where education took place.[13]

Furthermore, Malecha assumed that the increasing use of technology could reduce the need for studio-based culture and school facilities, and also make students less bound to traditions.[14] But his claim was proven wrong. During 2020 campuses' lockdown, just as in 1988 (when he published his article, at the threshold of the World Wide Web era), design studio instructors were still bound to the idea of a studio culture, as well as to school facilities such as studio classrooms and their props.

Also in the 1980s, studio culture became part of Donald Schön's research on design education. Schön looked at studios with four analytic lenses, discussing them as physical spaces, modes of teaching and learning, programs of activity, and a culture.[15] His intention was to investigate design studio education as a model that could be implemented in other professional disciplines' curricula and opened a whole field of inquiry in design pedagogy.[16] Scholars like James Corazzo based their research on studios focusing on one or more of Schön's four analytic lenses. Through a systematic literature review, he analyzed the discussions (published in articles between 2000 and 2017) around the role of space and materiality in studio teaching for the design disciplines.[17] But as pointed out by Corazzo himself, "although Schon's [*sic*] constructs provide an analytical distinction, it is essential to see these [lenses] as overlapping and inter-related."[18] Only by looking at them as inter-related, is it possible to see, for example, how they influence one another. For example, it is not possible to talk about studio culture without talking about space, even if the latter is a virtual space.

In 2005, professor Lee Shulman's work in educational psychology reframed Schön's distinction and helped to further theorize the role of culture in the type of learning that students develop in professional disciplines, such

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[13] Malecha, "Architectural Education," 124.

[14] Malecha, "Architectural Education," 121–22.

[15] James Corazzo, "In the Midst of Things: A Spatial Account of Teaching in the Desing Studio," *International Research & Education in Design Conference 2019 — REDES2019*, 2019, 1–2; Schön A. Donald, *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (Jossey-Bass, 1987).

[16] See Donald A. Schön, "The Architectural Studio as an Exemplar of Education for Reflection-in-Action," *Journal of Architectural Education* 38, no. 1 (1984): 2–9, JSTOR, https://doi.org/10.2307/1424770; and see also Donald A. Schön, *The Design Studio: An Exploration of Its Traditions and Potentials* (Riba-Publ., 1985).

[17] James Corazzo, "Materialising the Studio. A Systematic Review of the Role of the Material Space of the Studio in Art, Design and Architecture Education.," *The Design Journal* 22, no. sup1 (2019): 1249–65, https://doi.org/10.1080/14606925.2019.1594953.

[18] Corazzo, "Materialising the Studio.," 1252.

as design, law, and medicine. His concept of "signature pedagogies" opened new paths to define the "types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions."[19] He argued that studying these signatures in the pedagogies would allow people to understand the cultures of each respective professional discipline.[20] More specific studies on signature pedagogies and design education by professor Alison Shreeve delved into the characteristics of teaching in art and design. While identifying common signature pedagogies across various design disciplines, such as studio spaces, materiality, critiquing, and dialogue, she suggested that they would also need to adapt and change according to future societal challenges encountered by the professional disciplines.[21]

Adaptation and changes in the settings and practices of studio culture were also advocated by more critical investigations on design education. Scholars like Thomas Dutton questioned the implicit, and sometimes unintended, learning of design students inside studios. Borrowing Henry Giroux's concept of "hidden curriculum," Dutton investigated the power dynamics and social hierarchies raised from studio settings and practices.[22] In the 1990s, scholars like Ashraf Salama and Anthony Ward started to propose alternatives to studio teaching in order to challenge the state of art of design studio education, suggesting changes to what they defined as the "conventional approach" to design education.[23]

Studio culture, expressed through its settings and its material practices was, at times, even criticized by instructors and students. Complaints such as those of professor Thomas Fisher, emerging in the 1980s and 1990s, pointed to longstanding conditions of exploitation and unhealthy overwork among design students.[24] In 2002, following a fatal accident of a student driving home from his studio after two consecutive sleepless nights working on his final project, the American Institute of Architecture Students (AIAS)

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[19] Lee S. Shulman, "Signature Pedagogies in the Professions," *Daedalus* 134, no. 3 (2005): 52.

[20] Shulman, "Signature Pedagogies," 52–53.

[21] Alison Shreeve, "The Way We Were? Signature Pedagogies Under Threat," *The 1st International Symposium for Design Education Researchers DRS/Cumulus Conference, Paris, France.*, May 2011, 112–25.

[22] See Thomas A. Dutton, "Desing and Studio Pedagogy," *Journal of Architectural Education* 41, no. 1 (1987): 16–25, https://doi.org/10.1080/10464883.1987.10758461; And see also Thomas A. Dutton, ed., *Voices in Architectural Education. Cultural Politics and Pedagogy* (Bergin & Garvey, 1991).

[23] Ashraf M. Salama, *New Trends in Architectural Education. Designing the Design Studio.* (Tailored Text, 1995); Anthony Ward, "Ideology, Culture and the Design Studio.," *Design Studies* 11, no. 1 (1990): 10–16, https://doi.org/10.1016/0142-694X(90)90010-A.

[24] Thomas R. Fisher, "Patterns of Exploitation," *Progressive Architecture*, May 1991.

published the report *The Redesign of Studio Culture*.[25] While noting the importance of experiencing studio culture as part of the training, the report questioned the usefulness of certain practices and settings that kept perpetuating around studios over time. Developing unhealthy habits like leading unbalanced lives, multiple sleepless nights, skipping meals, having no social life outside studios, were among the more controversial, and also more common, student practices.[26] The document highlighted the problematic aspects of studio life, concluding with a "call to action" for promoting new visions for the future of studios, which led several architecture schools in the United States to publish studio culture policies that defined their respective goals, values and codes of conduct.[27]

Twenty years later, during the pandemic, instructors expressed skepticism about teaching their studios online while leaving behind the physical shared space of interaction that had supported and shaped its culture. While they pled for a swift return to in-campus teaching, there were also other voices who saw off-campus teaching as a chance to reconsider this culture, in particular the tradition of sacrifice that students endure in studio, and that has long been a feature of design education.[28] One instructor also criticized the current schools' studio culture policies whose "main focus remains the stubbornly persistent institutionalized conditions of an often patriarchal and nearly always exhausting set of longstanding practices embodied in studio."[29]

In the literature considered thus far there seems to be a tension between different points of view on studio culture. Instructors consider the settings and practices of studio education, the culture of the studio, as an essential component for educating design students. But at the same time, they also acknowledge the persistence of problematic aspects within the same culture, addressing the need for changes and adaptations. Despite ongoing debate, all authors seem to agree that studio culture, expressed through settings and material practices, played a crucial role in training design students.

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[25] Aaron Koch et al., *The Redesign of Studio Culture. A Report of the AIAS Studio Culture Task Force* (American Institute of Architecture Students, 2002), 7, https://www.aias.org/wp-content/uploads/2016/09/The_Redesign_of_Studio_Culture_2002.pdf.

[26] Koch et al., *Redesign of Studio Culture*.

[27] Orhan Hacihasanoglu, "Architectural Design Studio Culture," *Journal of Design Studio* 1, no. 1 (2019): 5–16.

[28] Linda C. Samuels in Smiley et al., "Field Notes, 4."

[29] Linda C. Samuels in Smiley et al., "Field Notes, 4."

What all these previous accounts have in common is that they consider design studio education as a given, a historical format with some remote origins in past traditions. Theorizing and critiquing current studio settings and practices, and proposing future trajectories, these authors have rarely considered the studio in a historical perspective. For example, the ways in which design training practices and settings took shape and developed has rarely been the subject of either theoretical or practical reflection. This is a research gap that this thesis addresses.

Alongside these studies, there are also seminal previous works that have discussed the history of architecture education. Among institutional histories of art schools, *Art Academies* by Nikolaus Pevsner in 1940 provided a grand narrative of the evolution of art and architecture academies across Europe from the Renaissance to the twentieth century.[30] His account focused on the education of artists by looking at the emergence and development of academies and professional institutions who provided such education. More recent contributions on the history of architecture schools came from Joan Ockman and Rebecca Williamson (2012) as a contribution to the centennial anniversary of the Association of Collegiate Schools of Architecture (ACSA).[31] Their collection of essays explored how architecture education and schools evolved over three centuries, discussing how teaching practices reflected wider social, political, and disciplinary changes. However, their study focused only on the United States. There are also histories of individual design institutions which provided an in-depth understanding of single schools and their evolution, students, faculty, and educational methods. For example, the work of Arthur Drexler was the result of an exhibition at the MoMA in New York in 1977 on the Parisian École des Beaux Arts.[32] His account focused on Beaux-Arts as a rigorous and enduring pedagogical model that influenced modern architectural education beyond its school in Paris. Other accounts of individual schools such as the Bauhaus, Harvard, Berkeley, and Yale, aimed at celebrating centenary anniversaries of the schools' openings, or focused on recounting a particular phase of the school's history.[33] These works traced the schools' development and

[30] Nikolaus Pevsner, *Academies of Art, Past and Present* (Cambridge University Press, 1940).

[31] Joan Ockman and Rebecca Williamson, eds., *Architecture School: Three Centuries of Educating Architects in North America* (The MIT Press, 2012).

[32] Arthur Drexler, *The Architecture of the Ecole Des Beaux-Arts* (Martin Secker & Warburg Limited, 1977).

[33] Anthony Alofsin, *The Struggle for Modernism: Architecture, Landscape Architecture, and City Planning at Harvard.* (W. W. Norton & Company, 2002); Waverly Lowell, Elizabeth Byrne, and Betsy Frederick Rothwell, eds., *Design on the Edge: A Century of Teaching Architecture, 1903–2003* (William Stout

transformation of design programs and pedagogies over time, primarily from an institutional perspective.

There are also several works which provided histories of architecture practice and profession. Early accounts such as that by architectural historian Martin Briggs (1927) provided pre-WWII views on architecture practice, tracing the evolution of the role and status of the architect from antiquity to the twentieth century.[34] More recent scholarly works, such as *The Architect* by Spiro Kostof (1977), reflected a critical and sociological understanding of architecture.[35] His account explored the formation of the architecture profession in history by focusing on social structures, institutions, education, and professional identity. Other accounts, though limited to the British context, came from scholars such as Kaye Barrington (1960), and Mark Crinson and Jules Lubbock (1994).[36] While Barrington's work analyzed the evolution of professionalism for British architects, Crinson and Lubbock specifically focused on architectural education and its influence in the shaping of the profession in Britain. A seminal work by professor Dana Cuff in 1991 discussed the history of architecture practices in the United States in the twentieth century.[37] Her account focused on the "culture of practice" by looking at how it has been shaped in the everyday activities of architects, from training in schools to working in design offices.[38]

Covering about a century of writing about the history of architecture profession and its education, these histories contribute to the larger discourse on the development of design education and practice. Yet, with few exceptions, they did not treat the culture of studios—or the historical development of settings and practices of design education—as the central focus of their analysis. This, instead, is the subject of this thesis. Only a few authors have directly addressed studios and their culture, though only marginally, in their studies. In her work, Cuff acknowledged the studio as precursor to professional culture. Also, Ockman addressed studio culture as

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Publishers, 2009); Robert A. M. Stern and Jimmy Stamp, *Pedagogy and Place. 100 Years of Architecture Education at Yale* (Yale University Press, 2016); Magdalena Droste, *Bauhaus. 1919 - 1933.* (Taschen, 2019).

[34] Martin Shaw Briggs, *The Architect in History* (Da Capo Press, 1974), https://archive.org/details/architectinhisto0000brig/page/n9/mode/2up.

[35] Spiro Kostof, *The Architect: Chapters in the History of the Profession* (Oxford University Press, 1977).

[36] Kaye Barrington, *The Development of the Architectural Profession in Britain* (George Allen & Unwin Ltd., 1960), https://archive.org/details/developmentofarc0000barr/mode/2up; Mark Crinson and Jules Lubbock, *Architecture: Art or Profession? Three Hundred Years of Architectural Education in Britain* (Manchester University Press, 1994).

[37] Dana Cuff, *Architecture: The Story of Practice* (The MIT Press, 1991).

[38] Cuff, *Architecture*, 5.

emerging from American schools of architectures. Both, however, focused their research on the North American context. Most other historical accounts treated design education mainly in terms of institutional organization and curricula development. The studio, when mentioned, was framed as a pedagogical format rather than as part of a larger living, social, and spatial culture.

Despite this extensive scholarship in the history of architectural education and profession, then, design studios remain largely untheorized as a historical and cultural formation. 'Studio culture' thus represents a crucial gap in existing research: it occupies the middle ground between institutional histories of architectural education, sociological analyses of professional practice, and more recent research on design studio education.

1.3 Continuities and changes in design education

Scholarly discussions suggest that the idea of studio culture is a relatively recent construct in the history of design education. But, as a phenomenon, practices and settings of design education are older than studio culture. The practice of handing down design knowledge to the younger generations is a phenomenon as old as history and connected to specific disciplines, crafts or institutions. In the ancient world of Egypt and Greece, the education of architects was strictly connected with their working practice, restricted to the members of the same family, and design knowledge was something exclusive, a "recondite language" passed on only from father to son.[39] Up until the mid-sixteenth century in Europe, the settings for training artists and craftsmen remained those of the respective working practices. Receiving education and training in architecture, or in one of the crafts or art disciplines, was mostly carried out on the job through the apprenticeship system, in one of the respective craft guilds.[40] But from the late Renaissance in Europe newly formed academies of arts offered artists a communal shared training outside their respective guilds. Although early academies like that in Florence and in Rome were not meant to replace pupils' training at their

[39] Kostof, *Architect*, 6, 21.

[40] Guilds were formal association of artisans and the only authorities "to provide adequate skills training" and to transfer design knowledge to the future generations, as discussed in S. R. Epstein, "Craft Guilds, Apprenticeship, and Technological Change in Preindustrial Europe.," *The Journal of Economic History* 58, no. 3 (1998): 684–85.

master's workshop, artists' education developed settings and practices also outside their working practice.[41]

In contrast to this preindustrial history, twenty-first-century instructors view design studio education as a recent approach, which developed and strengthened its practices from the mid-nineteenth century on, with the growth of schooling in France and England during the Industrial Revolution. Most scholars have similar assumptions on the roots of design studio education and the development of settings and practices from individual institutions in Europe.[42]

Nonetheless, in the research on design studio education, historical investigations have been only marginal premises and never considered in a critical way. Only rarely did scholars seem to question why certain practices and settings were reproduced and perpetuated, even though they were considered as problematic. For example, while critical discussions of studio practices exist, the history of design studios has rarely been examined, and few studies have explored alternatives to studio teaching or reflected on its potential obsolescence in design education today. In his exploration on design studios, Schön's only assertion on the traditions developed around this type of education was that it was a "throwback to an earlier mode of education and an earlier epistemology of practice," which originated from the apprenticeship of the medieval guilds and from the nineteenth century École des Beaux Arts.[43] The works of scholars like Stevens have discussed design studio education as emerging from distinct contexts and systems of professional education in the nineteenth and twentieth century, and in only a few places: Britain, France, Germany, and the United States.[44] Other scholars, like Ashraf Salama, or Carlo Olmo, have discussed individual schools as becoming models for the traditional way of training students, such as the École des Beaux Arts and the École Polytechnique in Paris, and the Bauhaus in Germany.[45] More concise investigations on the development of

[41] Briggs, *Architect in History*, 74; Pevsner, *Academies*, 48.

[42] See for example, Schön, *Design Studio*; Garry Stevens, *The Favored Circle: The Social Foundations of Architectural Distinction* (MIT Press, 1998); Ashraf M. Salama, *Spatial Design Education. New Directions for Pedagogy in Architecture and Beyond.* (Ashgate publishing limited, 2015); Carlo Olmo, "Scuole Di Architettura e Ingegneria: Ciclisti Staccati Dal Gruppo, Che Cercano Disperatamente Di Rientrare.," *Il Giornale Dell'Architettura*, September 2024, https://ilgiornaledellarchitettura.com/2024/09/06/scuole-di-architettura-e-ingegneria-ciclisti-staccati-dal-gruppo-che-cercano-disperatamente-di-rientrare/.

[43] Schön, *Design Studio*, 6.

[44] Stevens, *Favored Circle*, 168–86.

[45] Salama, *Spatial Design Education*, 59–67; Olmo, "Scuole Di Architettura e Ingegneria."

studio culture, though limited to the American context, came from Thomas Fisher, and Kathryn Anthony.[46]

Ignoring the historical development of settings and practices of design education has profound implications for understanding the role they have played in the training of students at various times and in various disciplines. The writing of this history would shed light on how these settings and practices changed or persisted in different contexts and times. For example, it would allow people to understand how certain studio practices and settings, even if they were considered obsolete or problematic within their respective context, got reproduced until the present. Gaining an historical perspective is conducive to heightening a new critical knowledge of how this culture, in the form of settings and material practices of design education, took shape and developed into the myth of *the* design studio.

1.4 Aim and research questions

The aim of this thesis is to examine the historical development of design education settings and material practices in specific contexts and institutions. Their analysis will help lay the groundwork for understanding their role in shaping contemporary studio culture. The study seeks to grasp the interplay between physical and social aspects of design education and how these elements have evolved over time. The thesis has the following overarching research question and two sub-questions that develop aspects of the first:

> Main question:
> *How did the settings and material practices of design education in North-Western Europe and North America develop between the mid-nineteenth and mid-twentieth centuries?*
>
> Sub-questions:
> *How did these developments shape the emergence of the studio culture that came to dominate design education by the late twentieth century?*
> *How did symbolic representations of these settings and practices contribute in shaping studio culture over the same period?*

[46] Thomas R. Fisher, *In the Scheme of Things. Alternative Thinking on the Practce of Architecture* (University of Minnesota Press, 2000), 67–77; Kathryn Anthony, "Studio Culture and Student Life," in *Architecture School. Three Centuries of Educating Architects in North America*, by Joan Ockman (The MIT Press, 2012).

The project addresses these research questions across multiple design disciplines. The term *design* is used here in an inclusive sense, encompassing the various fields that contributed to the emergence of what is today referred to as *design studio*. Architecture provides the central focus, as it has characterized the early development of design education settings and practices in the nineteenth century. However, the analysis also considers related disciplines—such as the fine, decorative and applied arts, technical education, engineering, and crafts like woodworking, metalworking, pottery—which were taught alongside architecture in the same schools and institutions considered in this thesis. Their workshop traditions and material practices intersected with architectural training and contributed to the development of settings and practices of design studio education in the twentieth century.

To answer the question, the thesis focuses on institutions in three different contexts that scholars addressed as making key contributions to the shaping of both settings and practices of contemporary design studio teaching.[47] For the second half of the nineteenth century, it takes into consideration the context of education at the École des Beaux Arts in Paris (Chapter 3), and that of English schools and institutions toward the end of the century (Chapter 4). In the twentieth century, it focuses on the context of education developed at the Bauhaus in Dessau, and its consequent influence on the development of design education programs in North American schools after World War II (Chapter 5).

It is important to acknowledge the limitations of this focus. By concentrating only on these institutions and contexts, the study does not claim to provide a comprehensive account of the history of Western design education. Instead, it seeks to trace the historical development of training settings and practices that scholars have identified as particularly influential in shaping contemporary design studio education.

This exploration contributes to the ongoing debate on studio culture and on the history of design studio education. The final goal is to highlight the significance of the history of current studio practices and settings, enabling both reflexive and critical responses to emerging changes. While the main focus is on architecture, the study also offers valuable insights for environmental design disciplines, such as landscape architecture and urban design. These fields, though they developed formal educational frameworks

[47] See previous discussion in section 1.3.

more recently, draw on the same traditions of studio settings and practices that originated in older disciplines like architecture and engineering. Ultimately, this research encourages ongoing reflection on how different traditions of settings and practices have shaped and continue to shape, contemporary studio education.

1.5 On the structure of this thesis

This project is a work of history on design education and the culture developed around studios. It builds on seminal previous studies on the history of architectural education on the one hand, and on the history of the architectural profession on the other (as discussed in 1.2). Unlike the aforementioned works, however, this project focuses on the settings of classrooms, design studios, workshops, drafting rooms, and their spatial configuration. It also takes on the students' perspectives of their activities and material practices both inside and outside curricular activities. This approach offers a deeper understanding of their historical development and culture. The project engages with, and builds on, the work of historians in these fields. For example, texts such as those by Pevsner, Kostof, and Cuff, which are part of the larger discursive history on design education and practices, constitute a backbone of secondary sources for this project. As their accounts have helped shape how the history of design education has been represented, parts of these works themselves also become primary sources of analysis, as further described in the method section. The project should be seen as complementary to those histories, pointing toward a deeper understanding of the formation of architecture and its professional culture, with a specific focus on design studio culture.

The thesis takes into consideration the histories of the settings and material practices of individual institutions at specific moments in time. The project works as a diachronic study of design education across time and space, from mid-nineteenth-century Paris, to the second half of the twentieth century in the United States. It examines key institutions and various traditions of educating designers in Europe and North America, as they were discussed by scholars as constituting the origins and background of *the* studio culture (as discussed in sections 1.2 and 1.3). The story that this project tells deals with the design of settings—both spaces and their props, and the ways in which teachers and students used them. It also follows the practices

performed by students and instructors, seeking to understand them within their specific historical contexts. As a whole, the thesis represents a history of design education settings, and of the practices performed among its actors (both students and instructors), and between actors and their tools and material.

The main body of the thesis is divided into four main chapters, three focusing on a specific place and time period, and the fourth drawing the main conclusions.

Chapter 3 considers the long-lasting tradition of educating architects at the Ècole des Beaux Arts in Paris in the second half of the nineteenth century. It examines the setting and practice of ateliers' private teaching developed during the *ancient régime* and the education system based on design competitions and award-winning students. The analysis of settings compares the spaces of the school with those of individual ateliers. It does not intend to provide an exhaustive spatial account of all Parisian ateliers, but rather uses the examples to discuss how this configuration of spaces related to earlier modes of educating artists in Renaissance academies and workshops. The analysis leads to a larger discussion around the practices performed by students inside and outside their ateliers. On the one hand, it seeks to understand students' training practices connected to drawing and their relation to the context of industrialization and technological advancement in construction materials. On the other, it considers student life within the ateliers and its relationship with the socio-economic conditions and cultural dynamics of artists outside the school. The chapter concludes with a look outside of Paris, following the growing influence of the École's model on architectural education abroad, and particularly in the United States and in Britain.

Chapter 4 compares the persistence of the École's model in France with the context of development in both architectural and technical education in Britain in the second half of the nineteenth century. The chapter focuses on the integration of practice-based training and manual instruction within institutional frameworks. Focusing on the Architectural Association's (AA) curriculum and its studios, it begins by analyzing the progressive shift from architects' apprenticeship, or office pupilage, to an institutionalized system of education closer to the French atelier's system, and emphasizing collaborative drafting and design under master supervision. The chapter then shifts its focus to technical schools, considering the context of transformation

following the 1889 Technical Instruction Act, which allowed schools like Yorkshire College or Liverpool College to expand their facilities and educational offerings for the training of students. The last part of the chapter compares the vocational focus of technical schools with schools of arts and crafts and of applied arts, discussing similarities in the arrangement of their settings, and differences in type of training practices for preparing students in one of the industrial and design trades.

Chapter 5 considers the experiment of integrating art, design and industry into a unified educational model for training students at the Bauhaus school in Dessau, in the 1920s. It begins by analyzing the arrangement of the school's settings and facilities as experienced by students, highlighting the vision of Walter Gropius (first Bauhaus director) of reviving medieval guilds as an alternative to the French Beaux-Arts system. The chapter then examines how the Bauhaus functioned both as a comprehensive educational and living environment, blending training, work, and leisure in what the sociologist Erving Goffman defined a 'Total Institution' where private and school life merged in a communal setting. The final part of the chapter traces the legacy of the Bauhaus after its closure during the Nazi regime. It follows instructors and students outside Germany, to see how their experience and influence affected design studio teaching in schools in the United States and elsewhere.

Chapter 6 draws the conclusion of the project. By tracing patterns among the previous chapters, it discusses how the continuous interplay between enduring settings and practices from previous traditions and the necessity to adapt to change affects the broader cultural identity of design education. The last part of the chapter begins to suggest a more nuanced interpretation of this history, where not only the settings and practices, but also their narrations and visual representations, contribute to influencing the ways of perceiving and conceiving the culture of design studio education.

2. Methodology

As Benedetto Croce argued, a work of history is always written from the point of view of the present in which the author is writing.[1] It is, therefore, always driven by a present interest which demands that history to be told and read. My background in engineering and my involvement in the Design Theory subject area within the Landscape Architecture division at the department of Urban and Rural Development provide the cultural and intellectual context for this work. The methodology draws on the interdisciplinary and transdisciplinary nature of this environment.

I must acknowledge how my experience, stemming from my first-hand involvement in design studio education, first as a student and then as a teacher, has been instrumental in shaping the questions and ideas that prompted me to pursue this project. It is my position as an insider of studios at a very specific time in history that generated my interests and questions for this project. I introduced this perspective in the Prologue. The 'three days in studio' describe how I witnessed the teaching transition first-hand, moving from pencil and paper to online desk(top) critiquing. Being an insider also informed the analysis by heightening my sensitivity and interpretive depth to material practices and to the tacit forms of knowledge embedded in studio education.

At the same time, I also recognize the potential biases that I carried with me in this research. As an insider, during the research, I needed to denaturalize and resituate my knowledge and background of design studio education. To use a term from literary criticism, this was an attempt to *defamiliarize* from the contexts being studied, and to make what is ordinary and known appear strange and new through an act of careful observation.[2]

[1] Benedetto Croce, *Teoria e Storia Della Storiografia*, Seconda Edizione (Laterza, 1920), 4–6.

[2] Ian Buchanan, *Oxford Dictionary of Critical Theory*, First Edition (Oxford University Press, 2010), 354–55.

One way to do that was to avoid the use of jargon and concepts that are familiar only to designers, and instead describing familiar objects or practices by making them seem strange by not using their names. Another way to defamiliarize was to avoid taking for granted the routines and gestures of both students and instructors, their interactions, and the spatial arrangements of studios, and instead describe them carefully before interpreting, or also, isolate them from the context.

2.1 Notes on structuring the thesis

The research process and writing of this thesis are informed by a range of interdisciplinary scholarly traditions, including cultural history, visual and material culture studies, and design-based methods. I describe these below. In writing this thesis I have relied on a number of concepts that I introduce in the following paragraphs. These concepts inform the process of investigation, i.e. its approach to research and analysis.

Conjunctures

The ideas on the structure of historical time from the Annales historian Fernand Braudel are helpful to explain the chapters' structure of the thesis. The time span covered by the thesis, between 19th and 20th centuries, suits with what Braudel referred to as the *longue durée*—"history that is almost changeless…history which unfolds slowly and is slow to alter…."[3] Imagining to unroll the chapters of the thesis on a linear timeline, there are settings and practices of 'studio culture' which persisted unchanged characterizing this wider time span from atelier training at the École des Beaux Arts to modern design studios in the 21st century. Among all, the bonding relationship between design training and academic institutions constitutes a *longue durée* from the late Renaissance to the twenty-first century.

But if *longue durée* characterizes historical periods measurable in centuries, there are other dimensions of historical time which become relevant by breaking down the longer timeline into smaller chunks. According to Braudel, this smaller unit of historical time could be discussed in terms of "cyclical movements" characterizing both economic and social

[3] Fernand Braudel, *On History* (The University of Chicago Press, 1980), 3.

trends in history.[4] Braudel defined these smaller units as "conjunctures," representing a "history of gentle rhythms, of groups and groupings," and situated halfway between the *longue durée* and the *histoire événementielle* (the history of events).[5] The time scale of conjunctures roughly spans between ten years to half a century, and as Braudel pointed out it is connected with a cyclical perception of historical phases, such as the "cyclical fall and rise of prices," or the window of time between two wars.[6]

Zooming in on this thesis, each chapter takes into consideration studios and their respective institutions in a historical time similar to that of Braudel's conjunctures. Communal socio-economic trends characterize the context in each chapter. For example, Chapter 3 takes into consideration artists' education in Paris in the decades between 1850s and 1890s, in a period of flourishing and stable prosperity, at the École des Beaux Arts and its new seat. Chapter 4 considers design education in England in the decades between the 1880s and 1910s, in a time that saw a progressive establishment of secondary and technical education in the schools of applied arts, and those of arts and crafts. Chapter 5 considers the decades of totalitarianism between the two World Wars and is linked to the rise and fall of the Bauhaus school in Germany.

The chapters are interconnected with one another and arranged in a chronological order, but at the same time they are also designed to stand independently. The three institutional settings for education approached in Chapters 3–5 have already been much discussed in histories of architectural education. Nonetheless, this project differs from other accounts in its methodological approach, focusing the attention to the lived experiences of students, the spatial configuration of settings, materials, and practices in their everyday life.

My approach to history entails engaging primarily with the points of view of students. In doing so, I seek to understand how they first-hand interacted with the settings and practices of their education, in order to grasp the cultural dynamics that shaped their experiences. In each chapter I seek to concentrate my attention on those sources, such as photos, diary notes, and students' drawings and memoirs, that reveal aspects of daily life and practices at the level of individual students and instructors. As a rhetorical device, I also try

[4] Braudel, *On History*, 27–34.

[5] Braudel, *On History*, 3.

[6] Braudel, *On History*, 27.

to write the story from their own perspectives. For example, in Chapter 3 I make use of the contribution form a student of the École des Beaux Arts, Alexis Lemaistre, who wrote and drew an extensive report about students' ordinary life both inside and outside the École in Paris, and that he published as a book in 1889. Other significant contributions came from students who wrote personal accounts and reflections on diaries and other publications that reported their experience at the time they attended the École. The diary of the American Louis H. Sullivan, and the memoir of the French Paul P. Cret, are among the voices also analyzed in this chapter.

Chronotopes

In arranging each chapter, I also get inspiration from the work of the Russian scholar Mikhail Bakhtin and his concept of chronotope.[7] Originally introduced in literary theory, the chronotope (literally "time-space") serves as "a unit of analysis" to understand the relationship between temporal and spatial categories in a narrative.[8] It is a way to understand the historical time and space of a novel by focusing on certain isolated aspects within the text, like settings, as they relate to time and space. But at the same time, it could also be a way to understand the culture and historical context from which a text, or more in general a source, emerges. Chronotopes serve as lenses for reading primary sources, "for reading texts as x-rays of the forces at work in the culture system from which they spring."[9] For instance, in *Rabelais and His World*, Bakhtin examined Renaissance culture as it was represented in François Rabelais's story *Gargantua and Pantagruel*, analyzing the interplay of literature, language, and society.[10]

The concept of chronotope has also attracted attention outside literary studies. Some scholars have applied this concept to the study of real-life classroom dynamics and students' interaction.[11] For example, Bloome et al.

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[7] Mikhail Bakhtin, *The Dialogic Imagination* (University of Texas Press, 1981).

[8] Bakhtin, *Dialogic Imagination*, 425.

[9] Bakhtin, *Dialogic Imagination*, 425.

[10] Mikhail Bakhtin, *Rabelais and His World* (Indiana University Press, 1984).

[11] See for example, Raymond Brown, "Positioning Students as Actors and Authors: A Chronotopic Analysis of Collaborative Learning Activities," *Mind, Culture, and Activity* 13, no. 3 (2006): 247–59, https://doi.org/10.1207/s15327884mca1303_6; David Bloome et al., "Learning over Time: Uses of Intercontextuality, Collective Memories, and Classroom Chronotopes in the Construction of Learning Opportunities in a Ninth-Grade Language Arts Classroom," *Language and Education* 23, no. 4 (2009): 313–34, https://doi.org/10.1080/09500780902954257; Kriistina Kumpulainen et al., "The Chronotopes of Technology-Mediated Creative Learning Practices in an Elementary School Community," *Learning, Media and Technology* 39, no. 1 (2014): 53–74, https://doi.org/10.1080/17439884.2012.752383.

considered "classroom chronotopes" in their studies of classroom learning and educational class dynamics.[12] The classroom chronotope consists of understanding how people move through the time and space of the classroom, considering how this movement affects them and the world outside their class. Their analysis assumes that "lived narratives that constitute classroom life" have "implied chronotopes," i.e., a series of assumptions about people's actions through time and space.[13] In a similar way, other scholars used the concept of chronotope to understand the social practices of elementary school students involved in the preparation of a school musical project using an online digital environment.[14] In this case, the concept of chronotope was useful for investigating how students collaborate in creative learning practices.[15]

Following Bakhtin's concept, and its applications in the study of classrooms, it is useful to think about the context—time, space—of each chapter as relating to a certain chronotope. While in each chapter I use sources to focus on design education settings and practices of specific institutions, I also seek to consider how their spatial and temporal dimensions relate to the broader cultural and historical dynamics of the world outside them. In each chapter, I attempt to roughly follow the same structure. I begin with laying out the context and a brief outline and then continue with an analysis of the design training spaces and their materiality. My intent is to land the reader in the context where the story unfolds. I do that through using written descriptions, and visual materials, of the settings and spaces. I then continue my argumentation introducing characters, both instructors and students, in the settings and using sources such as photos and written accounts with the aim of highlighting aspects of their practices.

Representations

All sources constituting the body of evidence for this project are treated as representations—products of the social world where they were created. As such, the study of sources as representations has to consider the limits of their absoluteness. As Burke put it, sources such as "texts and images of a certain period" must not be treated as "mirrors, unproblematic reflections of their times."[16] Instead according to Chartier, representations are "always the

[12] Bloome et al., "Learning over Time."

[13] Bloome et al., "Learning over Time," 324.

[14] Kumpulainen et al., "Chronotopes of Technology-Mediated Creative Learning Practices."

[15] Kumpulainen et al., "Chronotopes of Technology-Mediated Creative Learning Practices," 56.

[16] Peter Burke, *What Is Cultural History?*, Third Edition (Polity Press, 2019), 21.

product of the interests of the group that forged them."[17] For this reason, the researcher must accept the coexistence of different, sometime even contrasting, points of view.

This entails a constructivist approach where sources do not "*reflect* true meaning as it already exists in the world," nor do they represent the author's own individual meaning, and which is unique only to them.[18] Instead, meaning is constructed and mediated, through symbolic practices like written language or through other forms of communication such as painting and photography. With these ideas in mind, I interpret sources as representations, and the outcome of this endeavor also becomes another representation of the past.

As discussed by Arcangeli, this approach of treating sources as representations helps the researcher to move away from trying to assemble one unique and objective historical reality for what it was.[19] For example, this focus implies the search of several points of view of specific individuals or groups of people, and which also may differ from one another.

Myths

In drawing the main conclusions, it is useful to analyze Chapters 3–5 by using the concept of *myth*, as theorized by the literary theorist Roland Barthes. According to Barthes, myth is a "type of speech," a "mode of signification" that adds new layers of meaning to existing representations, spoken language, or objects.[20] The concept is an aid to analyze settings and practices across chapters. It allows us to see how design education is often spoken about and represented in ways that naturalize its values and routines, making them seem like timeless and self-evident truths, although they are historically constructed.

I develop the concept of myth more fully in the conclusion chapter, as that is where the idea of myth is put to work in drawing together the insights from Chapters 3–5. While in each chapter I mainly focus on sources as they portray settings and practices of design education, in the conclusion I seek to highlight how the ways of representing settings and practices influence how they are perceived, discussed, and handed down to future generations of

[17] Roger Chartier, *Cultural History. Between Practices and Representations* (Polity Press, 1988), 5.

[18] Stuart Hall, *Representation. Cultural Representations and Signifying Practices* (SAGE Publications, 1997), 24–25.

[19] Alessandro Arcangeli, *Cultural History: A Concise Introduction* (Taylor & Francis Group, 2011), 6, https://ebookcentral.proquest.com/lib/slub-ebooks/detail.action?docID=957800.

[20] Roland Barthes, *Mythologies* (The Noonday Press, 1991), 107–13.

students. The purpose of analyzing chapters 3–5 through this new lens is to unravel the whole complexity of the culture associated with design studio education—not just a result of its settings and practices, but rather a construct critically shaped by the discourses through which studios are represented, narrated, and communicated.

2.2 Sources and method

Sources are the only materials historian can employ to learn about the past. They are the traces left from the past. And as stressed by Howell and Prevenier in their book *Reliable Sources*, "Although historians make choices among the materials left by the past, … they must choose from what is available. Only certain kind of potential evidence was produced in any given age, only some of that was preserved, and only a portion of that is accessible to any given historian."[21] Both historians' activity and their research are influenced by the context they live in. The type of research they conduct, the tools they employ, and the possibility to find and get access to various sources, varied through time and space. Clarity of the methods employed to pursue the research and of the techniques used for analyzing the sources, as well as the list of sources, should allow for the process of replicability and verification.

Finding sources

Like other researchers nowadays, I conduct most of my research activity in front of a laptop, and I mainly engage with digitized sources which I find online. Beside the support of libraries, which I use for finding recent publications and for physical interlibrary loans, I lean on collaborative repositories of digitalized content like HathiTrust.org, Archive.org, Artstor.org and Jstor.org and the libraries of individual universities and institutions. For each chapter, secondary sources serve as a point of departure, helping to frame the historical context and identify relevant primary materials.

In each chapter, I make use of several major contributions to architectural history, the history of the design professions, and the history of specific institutions, as discussed in the introduction (1.2). They constitute a first array of secondary sources necessary to build an overall understanding of the

[21] Martha Howell and Walter Prevenier, *From Reliable Sources. An Introduction to Historical Methods* (Cornell University Press, 2001), 28.

field. Since their publication, references such as Nikolaus Pevsner, Spiro Kostof, Magdalena Droste, and Dana Cuff, have long been part of the reading lists of both architectural and design history courses. But they are also part of the larger discursive history that reported and discussed the evolution of design education and practice over time.

These references constitute the starting point for developing an overview perspective for this project. As part of this discursive history, they have contributed shaping how design education has been represented over time. Therefore, these texts themselves also become primary evidence within this project. The ways these authors have discussed design education at various times and in various contexts, the focus on certain institutions, the choice of images, and the ways to recount and analyze their sources, contribute to, and influence, our understanding of the history of design education.

As secondary sources, these contributions also offer guidance for tracking down new primary material. Their bibliographies and reference lists are useful for tracing back to new primary sources and also for making new interpretations from them. Each primary source may also serve to pinpoint further sources as well. This process is commonly known as snowballing method or "footnote-chaining" and guides the discovery of each new source, and that could provide potential evidence for the research.[22]

While this approach is productive in establishing a coherent overview of the field and identifying relevant primary sources, I should also acknowledge its methodological limitations. For this thesis, I do not conduct extensive research in the local archives, and do not carry out fieldwork at the institutions under study, partly due to access constraints (some school buildings do not exist anymore, or they simply changed their function) and the dispersed nature of archival holdings. That approach would require a different type of research, spending considerable time and resources studying each institution individually on site, and that would exceed the limitations set for this project. Instead, I rely on published collections, and digitized documents that made such material available through mediated forms. This inevitably shapes the scope of the study, privileging how institutions and practices have been represented, discussed, and circulated over direct documentation and in-depth archival source-finding.

[22] Alexandra Chassanoff, "Historians and the Use of Primary Source Materials in the Digital Age," *The American Archivist* 76, no. 2 (2013): 460; As cited in Zachary M. Schrag, *The Princeton Guide to Historical Research* (Princeton University Press, 2021), 174.

Sources

The sets of sources I employ vary between chapters, reflecting the differing time spans and contexts they address. For example, in Chapter 3, I seek to draw my main evidence from the individual accounts of both students and instructors that have had first-hand experience of the *École*. I gather evidence from the personal written views and memories of ex-students such as Alexis Lemaistre,[23] Louis Sullivan,[24] Walter Blair,[25] Paul Cret,[26] Jean Paul Carlhian.[27] But I also rely on a background of previous research. Historians such as Nikolaus Pevsner and Spiro Kostof provided comprehensive accounts on the history of art academies and the architectural profession respectively.[28] A more extensive research on the École des Beaux Arts and the history of the institution came from the work of Arthur Drexler, Richard Chafee, and David Van Zanten,[29] and was presented in an exhibition at the MoMA in New York in 1975. I also address more recent research, such as for example that of Guillaume Crocquevieille,[30] Guy Lambert,[31] and David Brain,[32] as they provide novel interpretations of the pedagogy, settings, and social implication of the Beaux Arts institution.

The rest of the chapters follow a similar scheme. In Chapter 4, apart from Pevsner's and Kostof's, I rely on works such as that of Kaye Barrington,[33]

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[23] Alexis Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée Par Un Élève* (Librairie Firmin-Didot et Cie, 1889), https://archive.org/details/lecoledesbeauxar00lema/page/n9/mode/2up.

[24] Louis Sullivan, *The Autobiography of an Idea* (Dover Publication, 1956).

[25] Walter Dabney Blair, "Student Life at the École Des Beaux Arts," *The BrickBuilder* 18, no. 3 (1909): 52–54.

[26] Paul P. Cret, "The Ecole Des Beaux-Arts and Architectural Education," *Journal of the American Society of Architectural Historians* 1, no. 2 (1941): 3–15, JSTOR, https://doi.org/10.2307/901128.

[27] Jean Paul Carlhian, "The Ecole Des Beaux-Arts: Modes and Manners," *Journal of Architectural Education* 33, no. 2 (1979): 7–17, https://doi.org/10.2307/1424347.

[28] Pevsner, *Academies*; Kostof, *Architect*.

[29] Richard Chafee, "The Teaching of Architecture at the École Des Beaux-Arts," in *The Architecture of the École Des Beaux-Arts*, ed. Arthur Drexler (Martin Secker & Warburg Limited, 1977); David Van Zanten, "Architectural Composition at the École Des Beaux-Arts from Charles Percier to Charles Garnier," in *The Architecture of the École Des Beaux-Arts*, ed. Arthur Drexler (Martin Secker & Warburg Limited, 1977).

[30] Guillaume Crocquevieille, "«Rome n'est plus Dans Rome...» Mais Dans La Cour Vitrée: Le Paradigme Muséographique Romain de La Présentation Des Moulages Dans La Cour Centrale Du Palais Des Études à l'École Des Beaux-Arts de Paris (1876-1970)," *In Situ. Revue Des Patrimoines*, no. 43 (2021), https://doi.org/10.4000/insitu.28842.

[31] Guy Lambert, "La Pédagogie de l'atelier Dans l'enseignement de l'architecture En France Aux Xix et Xx siècles, Une Approche Culturelle et Matérielle," *Perspective. Actualité En Histoire de l'art*, no. 1 (2014): 129–36, https://doi.org/10.4000/perspective.4412.

[32] David Brain, "Discipline & Style: The Ecole Des Beaux-Arts and the Social Production of an American Architecture," *Theory and Society* 18, no. 6 (1989): 807–68.

[33] Barrington, *Development of the Architectural Profession.*

Mark Crinson and Jules Lubbock,[34] Brenda and Robert Vale,[35] which provide more detailed readings on the development of the architecture profession and training in Britain. I also draw primary evidence from both individual and institutional accounts published in journals and magazines of that time, such as the *Journal of the Royal Institute of British Architects*,[36] *The Architectural Record*,[37] *The Architectural Review*,[38] *The American Architect and Building News*,[39] among others.

In Chapter 5, I mainly use some comprehensive research on the history of Bauhaus school, such as that of Magdalena Droste,[40] as well as more extensive research on people lives, both students and instructors, inside the school, like Neumann Eckhard's[41] and Frank Whitford's.[42] Their accounts provide a large collection of primary evidence from diaries, letters photographs and images documenting personal experiences inside the Bauhaus. I also draw primary evidence directly from individual written accounts of students, such as that of Howard Dearstyne[43] and instructors, such as those of Walter Gropius,[44] Paul Klee,[45] and Oskar Schlemmer.[46]

In all chapters, the school buildings and students' training spaces, through their representations, constitute primary sources used to perform visual and spatial analysis (as pointed at the end of this chapter).

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[34] Crinson and Lubbock, *Architecture: Art or Profession?*

[35] Brenda Vale and Robert Vale, "The Craft Tradition," November 2004, 350–55, https://archscience.org/wp-content/uploads/2014/08/ANZAScA2004_Vale2.pdf.

[36] "Chronicle. The Architectural Association. Its Revised Curriculum.," *Journal of the Royal Institute of British Architects* 2 (1895 1894): 651–52; "Some Thoughts on the Teaching of Architects: Being an Address Delivered by Mr. T. G. Jackson, A. R. A., at the Inauguration of the School of Architecture and Applied Arts, Liverpool, 10th May 1895," *Journal Of the Royal Institute of Brutish Architects* 2 (95 1894): 636–42; Arthur Cates, "The Higher Education of Architects," *Journal of the Royal Institute of British Architects*, Third, vol. 8 (1901 1900): 189–96.

[37] "The History of the School," *The Architectural Record*, 1901, https://hdl.handle.net/2027/uiug.30112001410841.

[38] Esther Wood, "The School of Arts and Crafts: Part One.," *The Architectural Review* 2 (1897): 240–44.

[39] See for example, "L'École Des Beaux-Arts," *The American Architect and Building News*, 1878; "Letter from London," *The American Architect and Building News*, November 20, 1897.

[40] Droste, *Bauhaus*.

[41] Eckhard Neumann, *Bauhaus and Bauhaus People* (Van Nostrand Reinhold, 1993).

[42] Frank Whitford, ed., *The Bauhaus. Masters and Students by Themselves.* (Conran Octopus Limited, 1992).

[43] Howard Dearstyne, *Inside the Bauhaus* (Rizzoli, 1986).

[44] Walter Gropius, *The New Architecture and the Bauhaus* (The M.I.T. Press, 1965).

[45] Paul Klee, *Pedagogical Sketchbook* (Frederick A. Praeger, 1953).

[46] Oskar Schlemmer, *The Letters and Diaries of Oskar Schlemmer*, ed. Tut Schlemmer (Wesleyan University Press, 1972).

For arranging all sources, I make use of both Howell and Prevenier's and Heller's classification methods.[47] The first method divides sources in *narrative or literary* (like those created to convey a specific message like newspaper articles, fiction, diaries, etc.), *diplomatic/juridical* (like legal and jurisdictional documents), and *social documents* (like products of record-keeping, meeting reports, administration records, by schools and other institutions).[48] As the authors specify, sources belonging to different categories should not be analyzed in the same exact way. The second way of reading sources uses Heller's matrix for reading organizational sources, which becomes especially useful when considering universities as organizations (Table 1).[49]

Table 1. Organizational Sources classification method from Michael Heller. (Table adapted by author.)

		Modalities of organizational sources	
		Reportative	**Performative**
Categories of organizational sources	Narrative	Annual reports, strategy and research reports, policy documents, curricula.	Enacting documents for branding and marketing the institution.
	Documentary	Minutes of meetings, internal documents, letters, committee documents, organizational statistical data.	Codes of practice, educational contents, individual and personal accounts like letters, photos, scrap books, poems, memoirs, diaries.

In the end, the investigation of each source leaves several traces, in the form of notes-to-self, or more often as uniform source locators (URLs codes) collected as bookmarks that allow me for later access. There is an erratic path going back and forth between searching, reading, and writing. Therefore, looking for sources, analyzing them, and writing go hand in hand with each other.

Only new information that may become potential evidence is recorded with the use of notes. I have tried different ways of taking notes, but what

[47] Michael Heller, "Rethinking Historical Methods in Organization Studies: Organizational Source Criticism," *Organization Studies* 44, no. 6 (2023): 987–1002, https://doi.org/10.1177/01708406231156978; Howell and Prevenier, *From Reliable Sources*.

[48] Howell and Prevenier, *From Reliable Sources*, 20–27.

[49] Heller, "Rethinking Historical Methods," 989.

seemed to work best were handwritten index card notes, as they can be categorized and grouped in several ways.

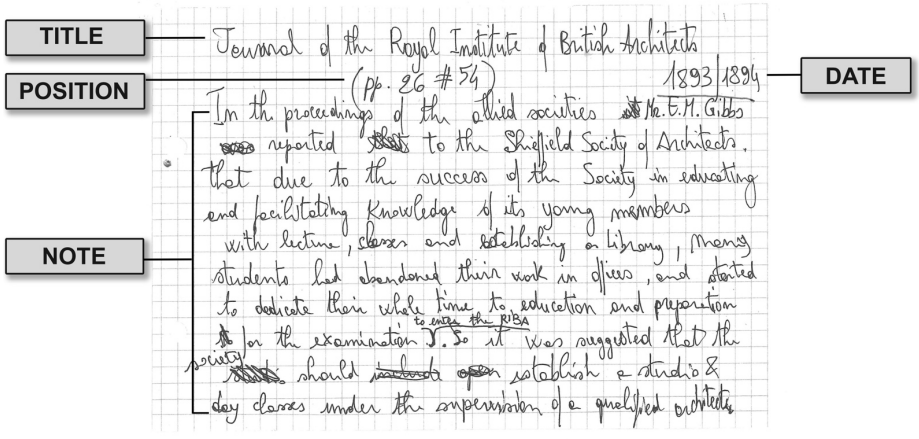

Figure 5. Example of how the diverse sources for this study have been structured and organized to provide the systematic overview needed for analysis. (Image by author.)

Analyzing written sources

Most sources I engage with in my research come in the form of written documents. In each chapter, both primary and secondary sources are assembled to build the argumentation in the story. Source criticism drives the process of evaluating and analyzing information for each of the sources.[50] A series of questions serves to guide the analysis (Table 2).

[50] Howell and Prevenier, *From Reliable Sources*, 60–68.

Table 2. Source Criticism Technique highlighting the process of evaluation for each source. From Howell and Prevenier's From Reliable Sources*. (Table by author.)*

Characteristics of sources	
External criteria	Where, when, by whom a source was created? What was the position of the author?
Internal criteria	What was the intended meaning of the source?
Document Genealogy	Original source? Copy? How was it made? Copy of original? Copy of a copy?
Document Genesis	What kind of institution, or individual, produced the source? With what authority? Under what circumstances? What surrounding events gave the date or the place special meaning?
Authorial Authority	What are the characteristics of the source's author? Were they present during the fact they are reporting? In which role?
Observer competence and trustworthiness	Knowing about authors' personality and knowledge, their point of view, and personal disposition could help in defining the reliability of each source.

This process of evaluation involves all sources and helps to raise awareness among the various documents. For example, a diary entry from a student describing a day in her design studio has different characteristics than the description of the same studio reported in the course syllabus of the school's bulletin. An instructor's memoires written at the end of his career for his school's anniversary publication has different meanings than a faculty report written by the same instructor at the end of his studio course. It is with this toolkit of questions in mind that I evaluate the sources available.

A further step of analysis is to consider in what way each of the sources may be used as evidence to answer the main research question, and sub-questions in each chapter. Sources' interpretation requires both critical reading for "finding messages that may not have been intended by the creator," and looking for patterns of evidence across various documents.[51]

In each chapter, I seek to gather the firsthand experience of both students and instructors as they viewed and lived their education. I strive to look for visual sources and written accounts that were left by them, and which provide their personal point of view as insiders—those who personally experienced

[51] Schrag, *Princeton Guide to Historical Research*, 208.

design studio life and culture. This provides me with an understanding of how they perceived both the practices and settings of their education. One such example in Chapter 3 is the book published by an ex-student of the École des Beaux Arts, Alexis Lemaistre, who wrote about student life at the École at the end of the nineteenth century. Lemaistre attended the École, and worked as painter, writer, and illustrator in Paris.[52] His book 'The School of Fine Arts illustrated and narrated by a student' (from the French, *L'École des beaux-arts dessinée et racontée par un élève*) was published in 1889.[53] Works of this kind, narrating the lives of bourgeois-like students, seemed to have gathered an interested audience at that time; and in fact in the following years Lemaistre also published other similar books, one on the Institut de France and its scientific schools in 1896,[54] and one on vocational schools in 1898.[55]

In the book, it appears clear how the author wanted to embrace a new kind of narration, one from the point of view of the people that were until that time neglected: art students. In the foreword of the book, he commented how in those years the arts were held the highest regards, but that at the same time the artists, and their lives, were still largely overlooked. So, in the same foreword, he revealed the intended purpose of his work:

> I will tell about their [students'] existence at the École, and even outside the school. … I would like to show how these debauched people live, how these idlers work, by what studies they initiate themselves into the secrets of their art, through what periods of misery and discouragement they pass. … It will be cheerful in moments and melancholy in places, as life is.[56]

Sources like Lemaistre's brought to life the existence of the École from an insider perspective, that of students. It gave voice to the practices and experiences of students at the École, their training, habits, jokes, aspirations and desires, but also their concerns, and worries.

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[52] Benezit, *Dictionary of Artists* (Gründ, 2006), 8:796, https://archive.org/details/dictionaryofarti0008bene/mode/2up.

[53] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*.

[54] Alexis Lemaistre, *L'Institut de France et Nos Grands Établissements Scientifiques* (Librairie Hachette, 1896).

[55] Alexis Lemaistre, *Les Écoles Professionnelles* (A. Mame et Fils, 1898).

[56] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, v–vi.

Other primary sources based on personal account of American students, also in the form of logs and diaries, were aimed at reporting back to their homeland, to those American students who also aspired to go to study in Paris. For example, this is the case of Walter Dabney Blair who published his account "Student Life at the Ecole des Beaux Arts" in *The Brickbuilder*.[57] Similarly to Lemaistre, Blair focused his discussion on describing the life of students at the École and particularly taking the side of his American fellows. He gave detailed instructions about the first weeks in Paris, describing the entrance examinations in English, and its characteristics, giving inputs on what exercise to prepare, and which books to study. Suggestions on where to eat and sleep, and where to find student-friendly neighborhoods, were in the list of things to remember for the foreign Americans.

In Chapter 3, I then seek to compare and combine evidence in these primary sources with other primary accounts that were written from the outside, on institutional level, or also other secondary sources that were written on a later stage. For example, in the same years works such as that of the curator of the library, museum and archive of the École, Eugène Müntz, provided an extensive account on the history of the school, both in its institutional and educational development.[58] Similar works, like that of David Penanrun, Roux, and Delaire, provided a comprehensive collection of historical and biographical references of students and teachers who attended the École, providing information on the organization of the school and of the structure of the curriculum.[59]

Visual analysis

In combination with written materials, visual sources in the forms of drawings, engravings, sketches, photographs, and video recordings, constitute the body of evidence for this project. Their availability, as well as their circulation, varies depending on each chapter—the context and time under investigation. Different historical periods have different availability of sources, both in terms of quality and in terms of quantity. During the analysis

[57] Walter Dabney Blair, "Student Life at the École."

[58] Eugène Müntz, *Guide de l'École Nationale Des Beaux-Arts* (Maison Quantin, 1889), https://archive.org/details/guidedelecolenat00munt/mode/2up.

[59] Louis Thérèse David de Penanrun et al., *Les architectes élèves de l'Ecole des beaux-arts, 1793-1907*, with Robarts - University of Toronto (Paris Librairie de la construction moderne, 1907), https://archive.org/details/lesarchitectes00daviuoft/page/7/mode/thumb.

of visual sources, I make use of Gillian Rose's critical visual methodology.[60] In addition to the technique of source criticism, the diagram reproduced in Figure 6 provides guidance for broadening the ways of reading and understanding images. It serves as a guidance for steering the analysis of visual sources. A matrix of four "sites" and three types of "modalities" determines the kind of questions that is possible to ask when analyzing the visual source, and therefore the various combinations of meanings that could emerge from it.

Depending on the type of sources, some questions in the diagram become more relevant than others in the discussion of each chapter. For example, a photograph posted on social media taken by a student with her compact camera and depicting daily life inside her design studio raises different questions (and could reveal different meanings) than a photograph of the same studio published in the school bulletin under the list of the available facilities, with the purpose of showing the empty space of the studio with its equipment, and therefore with no people inside it.

Depending on the time periods covered in each chapter, there are different types of visual sources that I engage with and use as evidence. While hand produced images, like sketches, drawings, and engravings, are techniques commonly known in the nineteenth and twentieth centuries, their use and availability vary depending on the context of study.

[60] Gillian Rose, *Visual Methodologies. An Introduction to Researching with Visual Materials* (Sage Publication Inc., 2016), 24–47.

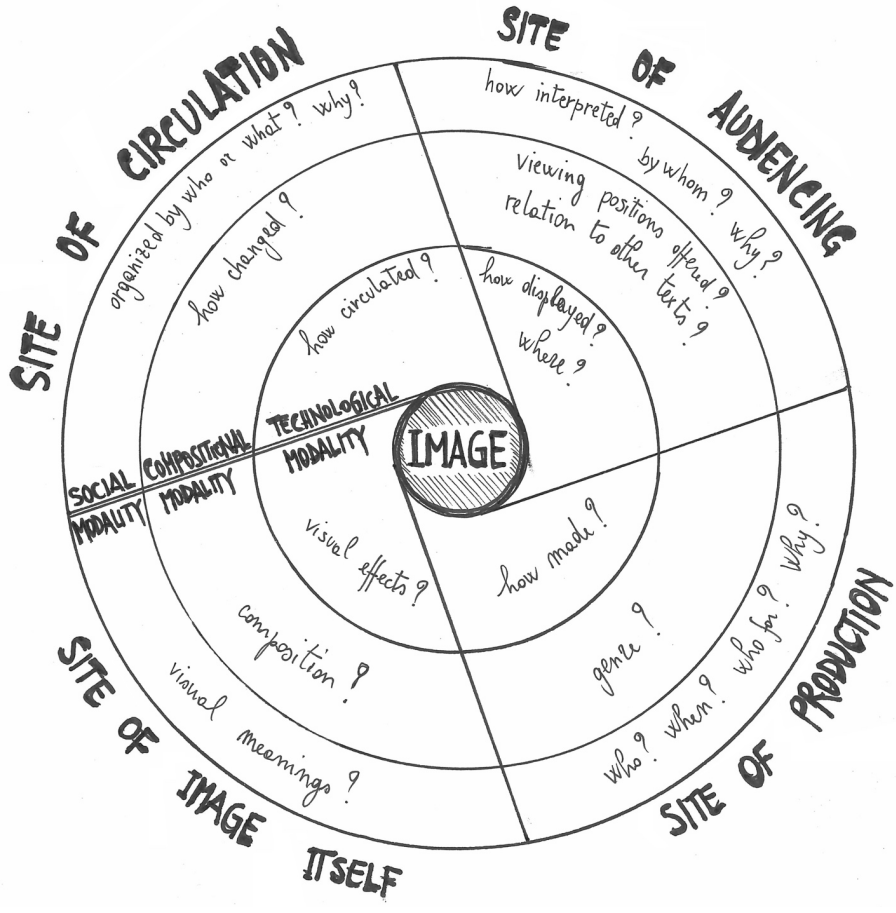
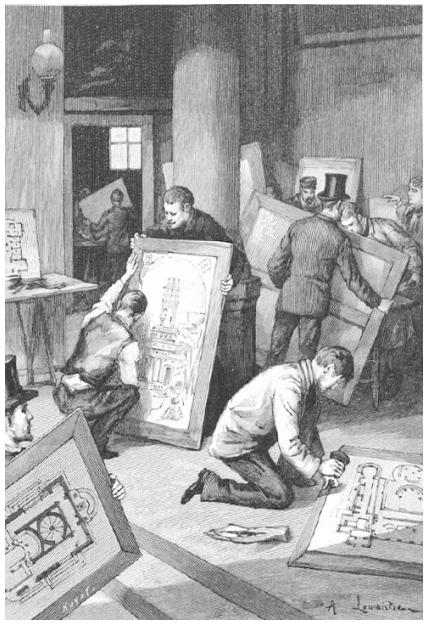


Figure 6. Framework for interpreting visual material through "sites" and "modalities". (Elaboration from Gillian Rose's Visual Methodologies *by author.)*

When reading images, I also try to pay attention to how the author wanted to convey its message to the audience, and what was the context in which it was produced, and for what purposes. For example, the wood-carved engraving representing late-19th-century students' life inside London's Central School of Arts-and-Crafts (discussed in Chapter 4), or the lithograph printed from a drawing sketch at the École des Beaux Arts also representing students' life (discussed in Chapter 3), are not only relevant for their visual meaning, but also for the kind of materials and techniques that were used to produce it (Figure 7, Figure 8). The imprint resulting from the engraving process and the drawing sketch lithography both represent *students at work* inside their

school. But as products, they are also examples of the kind of training practices students were undertaking in those years. The lithograph on the left expresses much about the importance of drawing and of cultivating drawing skills for all students at the École des Beaux Arts (discussed in Chapter 3). On the right, the printed poster from wood carved work by Herry Perry also carries many of the Arts and Crafts principles commonly shared in design education at the turn of the twentieth century in England (discussed in Chapter 4). Among all, the poster reveals the importance of training students' manual skills beside drawing, and of experimenting with different crafts.



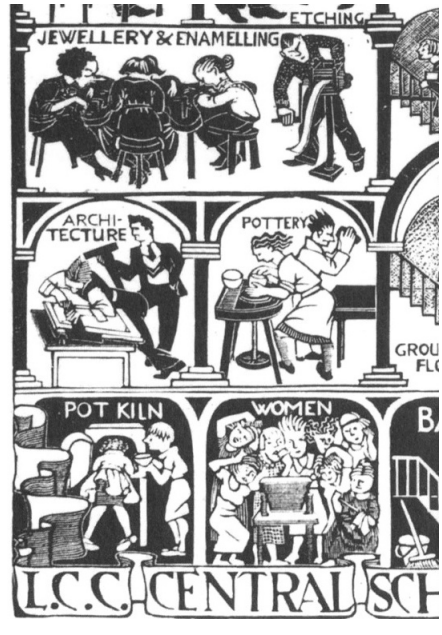


Figure 7. (left) A lithograph from a sketch by a student of the École des Beaux Arts, Alexis Lemaistre portraying students' life inside the school. (Lemaistre, L'École*, p. 361)*

Figure 8. (right) A section from a woodcarving print by a student of the London Central School of Arts and Crafts, Herry Perry, portraying students' life inside the school. (Image from University of the Arts London, Central Saint Martin Museum and Study Collection)

The type of material support used for the images also reveals a distinction in terms of their circulation and the reached audience. Alexis Lemaistre's sketch is part of a book written by himself and portraying students' daily life

at the École des Beaux Arts, from the point of view of the student. As such, its circulation and audience at that time is linked to that of the book itself. Only those interested in reading about Ècole's life from the perspective of a student, and that could afford the price of the book could become acquainted with Lemaistre's work. On the contrary, Herry Perry's poster is a whole piece. Her work, like that of Lemaistre, portrays students' life inside the school from her own perspective. But there is no need to be literate to read the image. And the labels of each vignette are not essential for understanding the scenes. As such, the poster could reach the attention of a different kind of audience. It could hang up on walls, on public streets, or be published as inserts in newspapers or magazines, and could also work as advertisement for the school.

Just like a drawing, a photograph portrays the personal point of view of the photographer and carries their intended meaning and purpose. For example, the photographs in Figure 9 and Figure 10 both portray design classes with students at work, but in different contexts (above it is a drawing class from the Sheffield Technical School at the end of the 19th century, below it is the design studio class from the Graduate School of Design at Harvard University in 1950). While the photos represent the same theme—students inside a design class—they express very different meanings and convey very different stories.

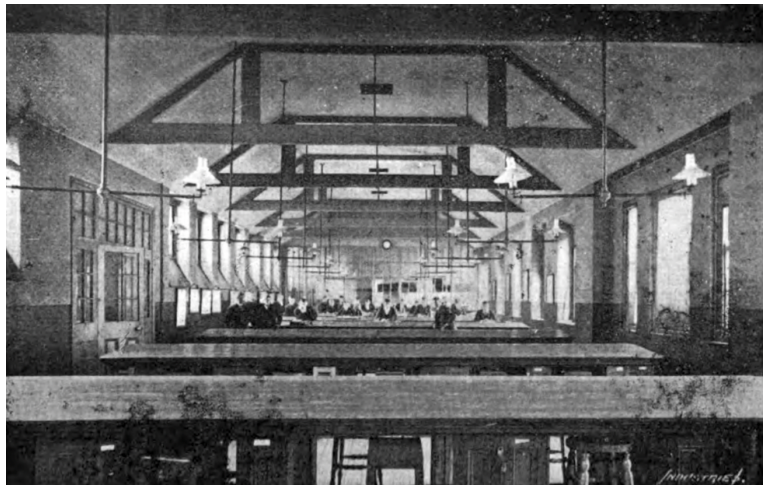


Figure 9. Photograph of a design class at the Sheffield Technical School in 1895. (Image from The Record of Technical and Secondary Education*, vol. 4, 1895, p. 216; Source: hathitrust.org)*

Figure 10. A photograph portraying a design studio class at the Graduate School of Design at Harvard University, 1950. (Source: UAV 605.270.1 (G-422), olvwork693262. Harvard University Archives)

By looking at the contexts in which they were produced and published, it is possible to gather various information. The photograph above is included as part of a comprehensive report called "The Record of Technical and Secondary Education" and which was published as a result of the Technical Instruction Acts in England in 1889, a series of governmental funds aimed at enhancing the quality and quantity of technical schools' facilities and their respective equipment (see Chapter 4). The students in the photo played a minor role. They are barely visible in the bottom of the classroom. Instead as the record of the invested funds, the photograph highlights the quality of the renovated space as well as its new setting. The wide angle magnifies the large open space of the class, as well as the wideness of the desks. In front, hanging from the high ceiling, there is the indoor electrical lighting system. Indoor lighting systems started spreading only a few years earlier and so it was source of pride for schools to show in the 1890s, and something to report as a result of the invested funds received from the government (Chapter 4).

In comparison, the photograph in Figure 10 was published in the March 1950 issue of the *Harvard Alumni Bulletin* (Chapter 5). While the subject of the previous photo was the space and setting of the design classroom, this one clearly focuses on students' activity, leaving little space to the surrounding characteristics. Although it is not possible to understand whether the photographer required students to pose in this way, or if the

photo was rather spontaneous, the message that the bulletin wanted to convey with this photo is clear. The kind of activities and practices students perform are more important than the quality of space they train in. The reader needs to see the design studio as a collaborative, and rather informal, environment. Students are gathered around their instructor, Walter Gropius, one of the dominant figures in the school of those years, and for many a source of attraction for the school. And as the audience of the bulletin were also students, and aspirants, the photo also worked for advertising the school and for attracting new students. This photo, together with similar ones published in the bulletin, provided readers with the visual idea of the kind of work and people they would encounter in design studios at Harvard. At the same time, it also provides an idea of the type of students that the program would expect to apply, suggesting both their appearance and social status: all men, white, similar looking, and responding to the same dress code of their instructors.

Spatial analysis (the designer's method of reading space)

Some of the methods I use in this thesis draw from my design training background in engineering. They refer to what designers do when carrying out their site analysis and spatial analysis in the initial phase of a project. To sketch over an existing image, drawing, or sketching from an existing building or landscape is a way to understand a space and to see how people use it. With this purpose in mind, sketching becomes instrumental to the researcher—a tool for analyzing space during the process, rather than representing it in a final product.

In each chapter, I try to systematize this way of analyzing the space of design education and training. I do that by sketching over existing designs, plans, sections, or photos, and noting down dimensions, scale, and labelling specific objects or artifacts. As a result of the analysis, I include them as new representations in the chapters. To render visible the analytical process to the reader, I choose to include my drawings as they are—hand sketched—including imperfections and mistakes (as they are also part of the analytical process), instead of presenting them as a final outcome of research (for instance using computer-aided design).

For example, the spatial analysis of an atelier at the École des Beaux Arts could reveal the qualities of space and of the tools available to students at that time (Figure 11 and Figure 12). Apart from the general characteristics of the room, which show a crowd of students in an open space, with a high

ceiling (and therefore probably hard to heat), and large windows, it is possible to describe the space of action of the single student. Through comparing different proportions, it is possible to recreate an idea of the average space available to each student, and of the basic tools they employed during their training.

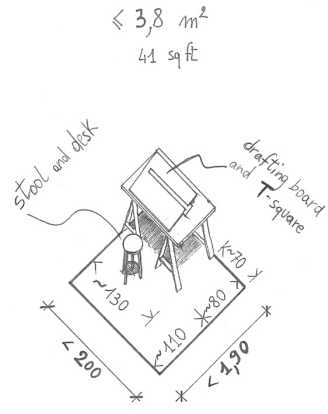


Figure 11. (left) A photograph showing students and their working environment inside their atelier at the École des Beaux Arts. (Photograph from Drexler, The Architecture of the École*, p. 91)*

Figure 12. (right) An example of spatial analysis seeking to define the characteristics of the individual working space and equipment available to each student. (Drawing by author.)

Sketching also serves as a way to introduce each chapter. The diagrams in the beginning of each chapter are visual representations intended to display a schematic outline of the chapter's organization—what the reader will encounter in the reading. As such, they are not a summary of the results of each chapter, rather they are figurative aids that describe the themes addressed in the chapters. During the writing process, they were useful to identify the narrative thread, as well as the main ideas discussed, in the chapters.

3. Educating artists

When thinking about the design studio today, many scholars trace its origins to the École des Beaux-Arts in nineteenth-century Paris.[1] The École is widely regarded as one of the earliest and most influential models shaping contemporary design education. While the context of those years was characterized by industrialization and technological advancements, the École maintained an approach that emphasized rigorous artistic training, competitions and an education system that was deeply embedded in past traditions and social hierarchies. In those years, Charles Baudelaire noted that art—and especially art education—was particularly intertwined with the social status of the bourgeoisie in Paris.[2] In this sense, the École was more than just an art school; it was a gatekeeper of artistic prestige, where talent and dedication alone were not enough—students had to navigate a system built on competition, tradition, and cultural capital.

The goal of this chapter is to examine the settings and practices of the Beaux-Arts educational model for educating artists, and to explore how and why they have endured in European and North American context over time. By looking at the context of nineteenth-century École des Beaux Arts, this study seeks to understand the historical development of both physical and social aspects of design education, and their role in shaping contemporary studio culture (as discussed in the Introduction).

The chapter is divided in five parts (Figure 13), each focusing on settings and practices characterizing nineteenth-century student life at the École. The first part (3.1) considers the settings of the 'new' school buildings in Rue Bonaparte and those of the ateliers where students conducted most of their

[1] See discussion in the Introduction 1.3, and see for example Schön, *Design Studio*; Stevens, *Favored Circle*; Salama, *New Trends in Architectural Education*.

[2] Charles Baudelaire, *The Salon of 1846* (David Zwirner Books, 2021), 22.

training. The analysis discusses how this configuration of spaces, even if newly conceived, echoed earlier modes of educating artists in Renaissance academies and workshops. The second part (3.2) explores training practices connected to drawing and how they were employed in school competitions, as well as their role within the broader context of industrialization and technological advancement. Rather than looking at the curriculum and the institutional level, it considers students' perspectives, focusing on their daily training practices and the aspects that most influenced their experience and understanding of education. The third part (3.3) shifts attention to the culture that developed out of the formal curriculum, looking at the social rituals and traditions that shaped students' experiences as a constitutive part of a larger shared cultural capital. The fourth part of the chapter (3.4) seeks to explain the longevity of this model, following its growing influence on architectural education abroad, and particularly in the United States. The conclusion of the chapter (3.5) argues that this model of education reveals some structural characteristics which are distinctive of an early studio culture.

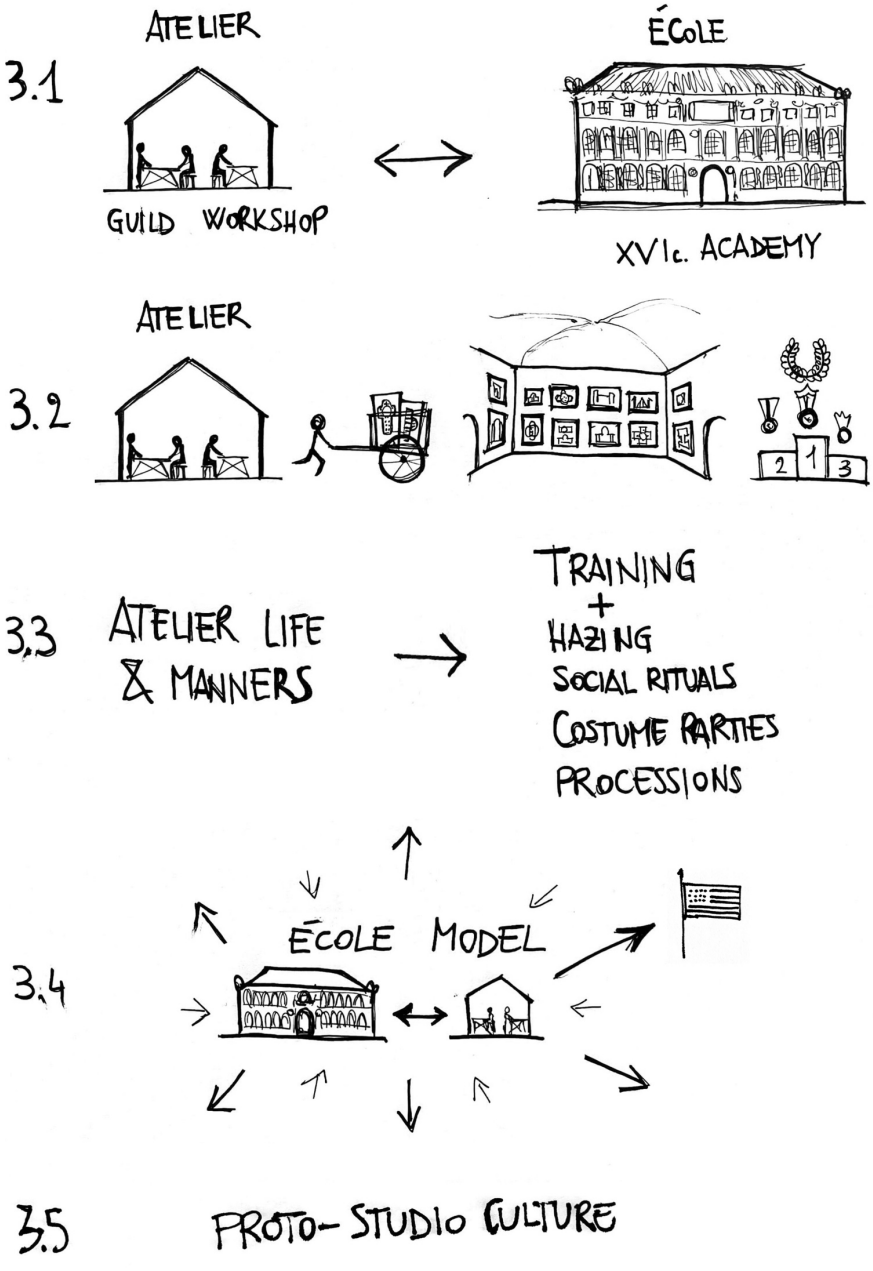


Figure 13. Schematic overview and organization of the chapter, (double-headed arrows mean bi-directional communication and/or relationship). (Drawing by author.)

3.1 A new school like an old academy

In 1837, the success of Paris's first suburban steam railway to Saint-Germain confirmed the growing impact of technology in people's daily life in the nineteenth century.[3] Industries had already begun to mark the physical landscape with factories and railways, changing the architecture of major cities. The historian Eric Hobsbawm defined this period the age of "dual revolution" as people in France and Europe witnessed major changes in both politics and industry.[4] As industrialization and technological advancements began to influence people's daily life, they could also affect the cultural and educational institutions of the time.

During these years, the training of architects and artists at the École des Beaux Arts in Paris was also undergoing change and reform. After the French Revolution abolished the old *académies royales*, the teaching of artists progressively moved from the Louvre across the Seine in the new formed Institut National des Sciences et des Arts.[5] In 1816, during the second restoration, Louis XVIII ordered construction of a new separate seat for the École des Beaux Arts, which brought together the disciplines of Architecture, Painting, and Sculpture.[6] The construction of the new school proceeded until 1840, and then in the second half of the century with a further, and final, expansion.[7]

Yet despite these reforms, the settings of architectural education changed very little. This part of the chapter considers how in the second half of nineteenth century, the École's physical settings and training practices still reflected those of the early Renaissance academies. The education of architects, which more than painters and sculptors contributed to shape the industrial cities, shared much with the training of sixteenth-century artists.

[3] Barrie M. Ratcliffe, "The Origins of the Paris—Saint-Germain Railway," *The Journal of Transport History* I, no. 4 (1972): 197, https://doi.org/10.1177/002252667200100401.

[4] Eric J. E. Hobsbawm, *The Age of Revolution : Europe 1789-1848* (Abacus, 1962), 11.

[5] Richard Chafee, "The Teaching of Architecture at the École Des Beaux-Arts," in *The Architecture of the École Des Beaux-Arts*, ed. Arthur Drexler (London: Martin Secker & Warburg Limited, 1977), 65–74.

[6] Chafee, "Teaching of Architecture at the École," 77.

[7] Chafee, "Teaching of Architecture at the École," 79.

The school building as an exemplary place to copy from

The new seat of the École des Beaux Arts replaced the Musée des Monuments Français, a former property of the seventeenth century Couvent des Petits-Augustins.[8] The work on the new school initiated under François Debret, architect of the old academy, and then continued from 1832 under architect Félix Duban, previous student at the École.[9] By 1840, the new seat of the École was ready, and the school completely settled in the new building.[10] A lithograph by the French painter Philippe Benoist shows how the school appeared to contemporaries from its main entrance in the mid-nineteenth century (Figure 14).[11] By looking at the architecture, it was still not possible to grasp any sign of the technological development that began marking the city in those years. The construction materials, as well as the architectural style of the new buildings and façade adhered to traditional methods and classical aesthetics, concealing emerging industrial technologies.

Figure 14. A lithograph by Philippe Benoist portraying the entrance of the Palais des Beaux Arts, ca 1860. (From Audiganne Armand et al., Paris Dans Sa Splendeur*, 1861, Plate 26)*

[8] Müntz, *Guide de l'École*, 16–18.

[9] Chafee, "Teaching of Architecture at the École," 79.

[10] Chafee, "Teaching of Architecture at the École," 79.

[11] Audiganne Armand et al., *Paris Dans Sa Splendeur: Monuments, Vues, Scènes Historiques, Descriptions et Histoire.*, with Benoist Philippe and Arnout Jules, vol. 1 (H. Charpentier, 1861), fig. 26, https://gallica.bnf.fr/ark:/12148/bpt6k6118590b.texteImage.

Between 1832 and 1839, architect Duban envisioned the new École to become both a monument and a learning model for the students. As a monument, visitors could experience the school like a museum, a piece of lasting evidence with references to architectures and artists of the past. As a learning model, the design and organization of the school physically embodied a structured approach to artistic education. Imagining doing a tour starting from the main entrance, students would shortly become familiar with the busts of two seventeenth-century artists, Nicolas Poussin and Pierre Puget placed on top of the gate's jambs. Passing the gate, students would encounter two consecutive courtyards (Figure 15). In the first courtyard (Première Cour) they would find a façade's section of the Château d'Anet, an example of Renaissance architecture from Centre-Val de Loire. A wall section of the Château de Gaillon, preserved during the Revolution in 1789, separated the first with the second courtyard (Deuxième Cour). At the end of the second courtyard, students would find the Palais des Etudes, the École's new building.[12] This last was Duban's own creation, showing a façade adhering to "Early Renaissance Italian" style.[13]

[12] Müntz, *Guide de l'École*, 12–25.

[13] Chafee, "Teaching of Architecture at the École," 78–79.

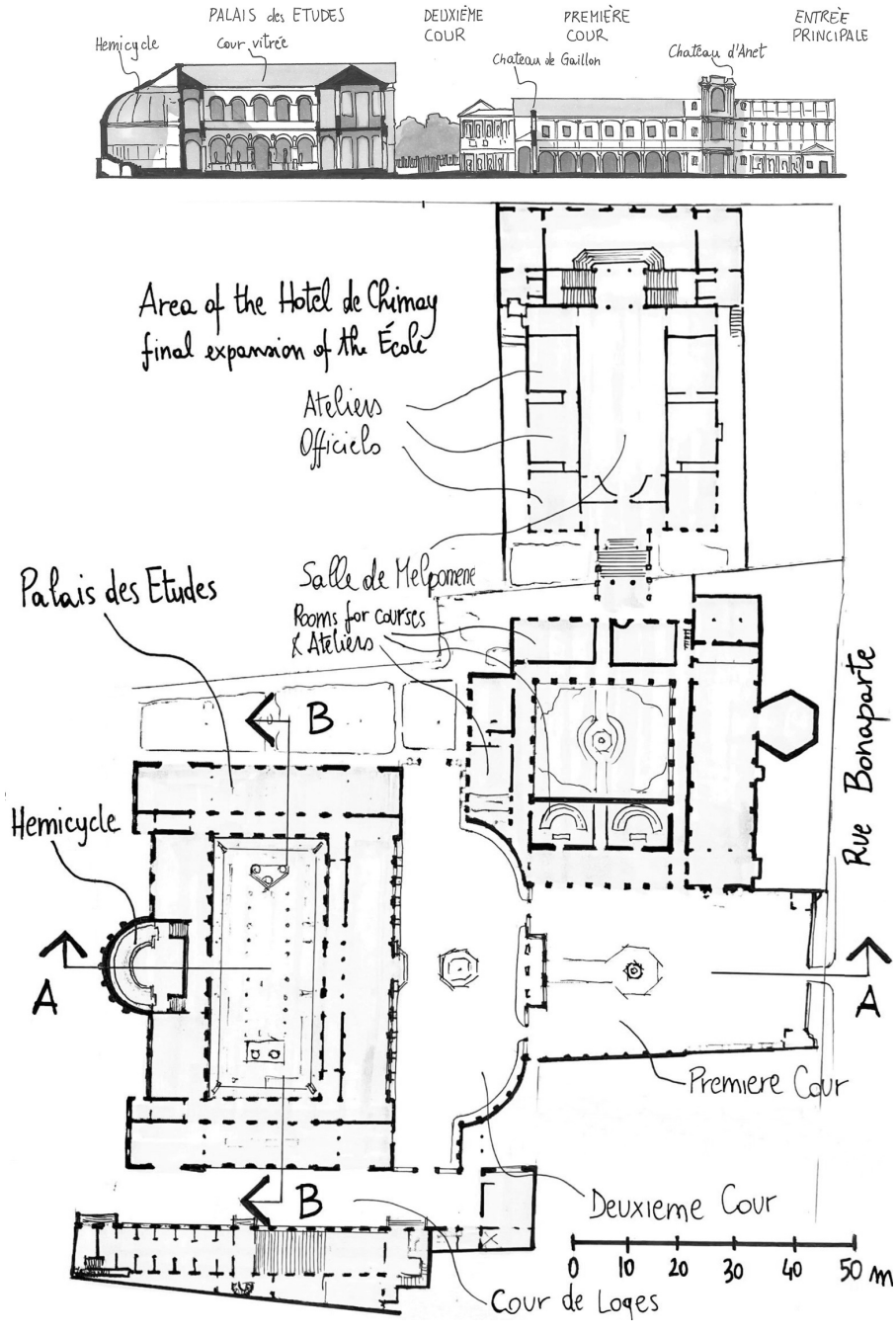


Figure 15. École des Beaux Arts plan and section (AA) of the Palais des Etudes. (Drawing by author.)

Duban's project resulted in a school that foregrounded precise aesthetic principles and values, becoming like an "aesthetic manifesto" for the students.[14] Outside, a sequence of scenes let the visitors experience various phases of French architecture, from early sixteenth-century Gothic, to nineteenth-century mixture of classical orders in the Italian Renaissance Façade.[15] Inside the Palais, the visitors encountered a large collection of cast pieces from the past, ancient pediments and sculptures: the collections included pieces from Egyptian, Assyrian, Romanesque, and Greek cultures among others.[16] The most valuable pieces were visible in the palace's courtyard under a glazed roof: the Cour Vitrée (see. Inaugurated in 1874 as the Musée des Antiques, the collection contained sculptures, such as the horses of Saint Marc in Venice, but also full-scale portions of ancient architecture such as a section of the Parthenon and one of the Temple of Jupiter Stator.[17] Although it received several critiques both about the arrangement of spaces and for the aesthetic style adopted, the school complex remained the home of the École for more than a century, and its mixture of different styles became a character of distinction.[18]

[14] Crocquevieille, "«Rome n'est plus Dans Rome...»."

[15] David Van Zanten, "Félix Duban and the Buildings of the Ecole Des Beaux-Arts, 1832-1840," *Journal of the Society of Architectural Historians* 37, no. 3 (1978): 169–72, https://doi.org/10.2307/989207.

[16] Müntz, *Guide de l'École*, 71–141.

[17] Müntz, 84–.

[18] Van Zanten, "Félix Duban and the Buildings."

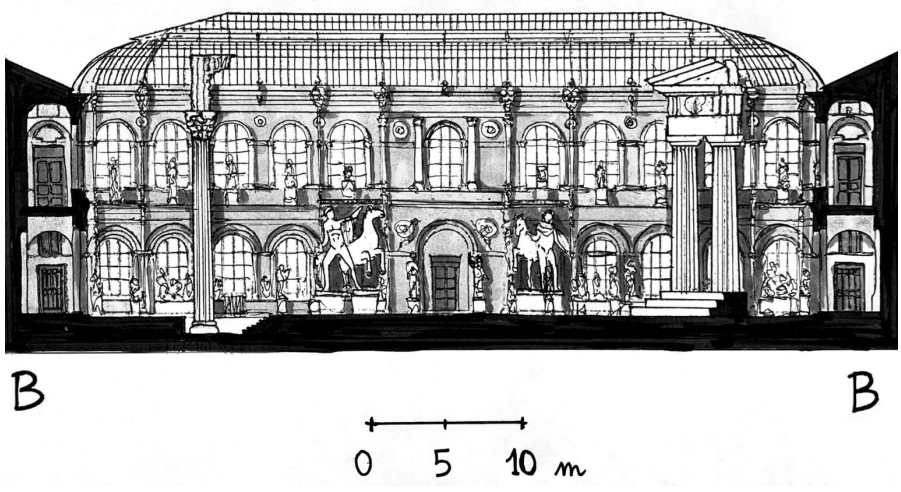


Figure 16. Section (BB) of the Cour Vitrée and its collection of monuments. (Drawing by author.)

The result, an eclectic mixture of different styles and periods, was a tangible expression of the École's curriculum.[19] On one hand, as a monument, the promenade from the entrance gate, walking straight through the courtyards and the palace till the Hemicycle—the semicircular room at the furthest point from the entrance—resembled students' ideal path to becoming artists.[20] Imagining this promenade being the student's timeline inside the École, all students would begin their education at the entrance gate, but only few would end it inside the Hemicycle, where the best students were awarded with the highest recognition from the school, a medal for the *Grand Prix de Rome*.

On the other hand, as a learning model, the school's spaces—the two courtyards, as well as the Palais, with its collections of antiques, visibly reinforced the knowledge students were expected to acquire during their education. By studying the styles, orders, compositions, and history of what they encountered along the way, students could develop into artists of the École.[21] All around the Palais, the pedagogical goal of the school was spatially visible and materially tangible: *la Cour Vitrée*, as well as the rest of the outdoor areas, provided students with an exemplary place from which they had to learn. The written memories of a student at the École, Alexis

[19] Crocquevieille, "«Rome n'est plus Dans Rome...»."

[20] Crocquevieille, "«Rome n'est plus Dans Rome...»."

[21] Courses such as Architectural History, French Architecture, and Architectural Theory were among those offered in the curriculum. See for example David de Penanrun et al., *Les architectes élèves de l'Ecole*, 115–16.

Lemaistre, portrayed the kind of training students performed inside the *Cour Vitrée*. Randomly distributed, sitting on chairs or on a column's stylobate, students spent their time drawing from the antiques, with paper sheets fixed on a rigid board and a pencil (Figure 17). The exercise of drawing by copying, and still life drawing was a shared part of the education among students in architecture, painting, and sculpture.[22]

But the idea of making the École as an exemplary place for the students to learn from was not new. Almost three centuries earlier, the Tuscan artists Giorgio Vasari wrote in his *Lives of the Artists* how he had found the New Sacristy in Basilica di San Lorenzo in Florence as an exemplary place to carry out both academy meetings and young pupils' education at his new Academy of Drawing.[23] Vasari's purpose for the academy was to provide young talented artists with the opportunity to study the "three arts" of painting, sculpture, and architecture, beside the training already provided at their masters' workshop.[24] As reported in the academy statutes, the intention of Vasari and the other artists was "to make an academy and studio for the avail of the young men who learn these three arts [of architecture, painting, and sculpture.]"[25] The discipline of drawing, from the Italian *disegno*, was the common basis to begin with before stepping into any other art discipline.[26]

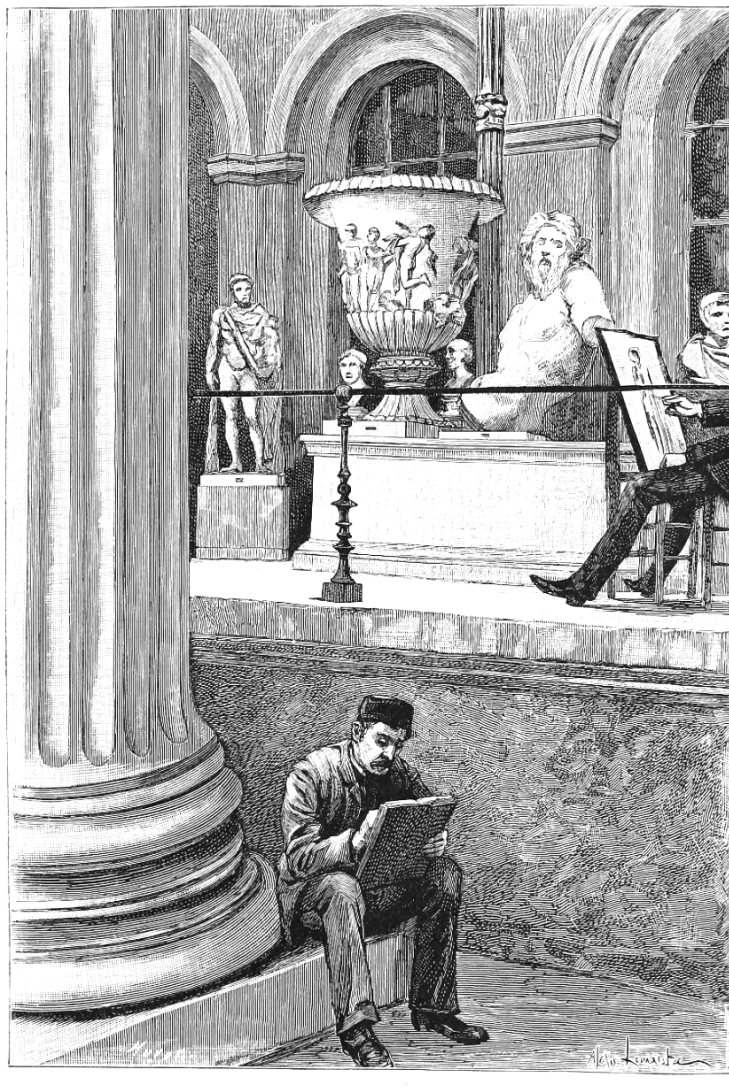
[22] David de Penanrun et al., *Les architectes élèves de l'Ecole*, 115–16; Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 119; and also see Chafee, "Teaching of Architecture at the École," 84.

[23] Giorgio Vasari, *Le Vite Dei Più Eccellenti Pittori, Scultori e Architetti* (Newton Compton Editori, 2022), 1147.

[24] Zygmunt Ważbiński, *L'Accademia Medicea Del Disegno a Firenze Nel Cinquecento. Idea e Istituzione* (Leo S. Olschki, 1987), 2:432.

[25] Ważbiński, *L'Accademia Medicea*, 2:425–26.

[26] See for example Vasari's introduction to the art of painting and the relevance of "drawing" for the three arts, Vasari, *Le Vite*, 73–77.



A L'ANTIQUE.

Figure 17. A lithograph from a student at the École portraying other students sketching from the casts of antiques inside the Cour Vitrée in the second half of the nineteenth century. (From Lemaistre, L'École*, p. 61)*

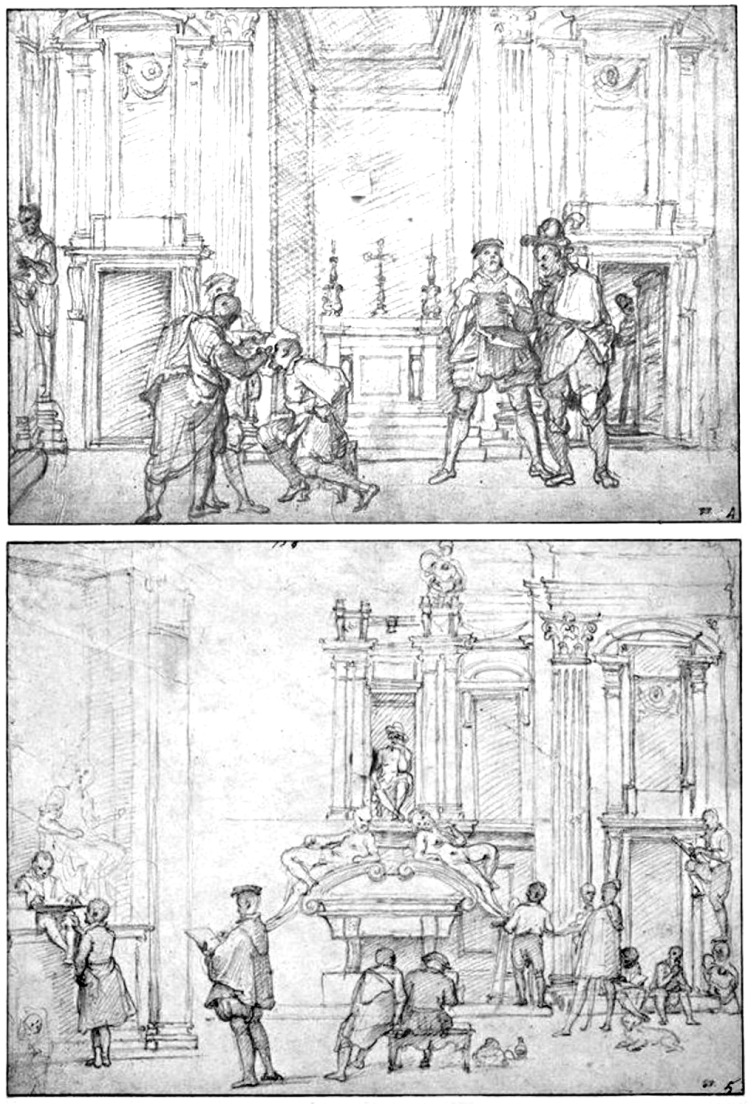


Figure 18. Artists drawing in the New Sacristy in San Lorenzo (Florence), sketches by Federico Zuccari, 1560s, Louvre, inv. 4554 recto and inv. 4555 recto. (From: Meijer/Zangheri, 2015, II, figs. 156a and 156b)

Learning by copying required having access to spaces and models to get inspirations from, and from which the young artists could learn. For Vasari, the example to follow was Michelangelo and his New Sacristy in San Lorenzo.[27] Among the many artists who visited the New Sacristy to study and sketch Michelangelo's works, Federico Zuccari captured these activities in two drawings, depicting artists copying from Michelangelo's works as envisioned by Vasari's academy (Figure 18).[28] The exercise of drawing, and particularly still-life drawing and learning by copying were also part of the training at the academy. Learning by copying from exemplary masterpieces remained part of artists' training until the nineteenth century École.

Moreover, just like the pupils in the early Accademia in Florence, nineteenth-century students at the École performed the main part of their training elsewhere, outside the school Palais.[29] Students of the École would receive their education under the supervision of individual masters at their *atelier* outside the school.[30] Likewise, at the early Florentine Academy, the pupils would perform the main training outside the academy at their respective guild, under the guidance of their one master.[31]

Quasi-domestic places to train in

As with the École's building, other aspects of artists' education remained consistent with early Renaissance academies. Similarly to the Florentine Academy where the pupils used to get their training at their master's guilds outside the academy, until the 1860s, all the ateliers were physically separated from the École, usually located in the École's neighborhood on the Seine's left bank.[32] As the school included the three main disciplines of architecture, painting, and sculpture, there existed specialized ateliers for each discipline. Just like the Florentine guilds, nineteenth-century ateliers

[27] Henk Th. Van Veen, "Vasari, Michelangelo e l'Accademia," in *Accademia Delle Arti Del Disegno. 450 Anni Di Storia*, ed. Bert W. Meijer and Luigi Zangheri (Leo S. Olschki, 2015), 1:25–31.

[28] See also the discussion in Matthijs Jonker thesis, M. J. Jonker, "The Academization of Art: A Practice Approach to the Early Histories of the Accademia Del Disegno and the Accademia Di San Luca" (2017), 102, https://dare.uva.nl/search?identifier=129a6ee5-44c8-43dd-93cb-9d2c3ed2c2e0.

[29] As per Duban's project, the rest of school activities were to be placed in other buildings; for instance, since 1840, all courses and lectures moved to the Cour du Murier (the old convent's cloister). See Chafee, "Teaching of Architecture at the École," 83.

[30] Chafee, "Teaching of Architecture at the École," 82.

[31] See for example the articles of the Statutes of the Accademia. The activities of the Accademia were mostly held on Sundays and during the Festivities, and therefore they did not interfere with the working activities and pupils' training in the workshops. Waźbiński, *L'Accademia Medicea*, 2:423–70.

[32] From 1863, students could also choose to join one of the three ateliers officiels established within the perimeter of the school. See discussion in Chafee, "Teaching of Architecture at the École," 90.

were also independent enterprises outside the school jurisdiction, each led by a patron (*maître d'atelier*).[33]

To be enrolled at the École, aspirant students had first to join an atelier, which just like a medieval guild for apprentices, provided a second home for the students. As a student of the École, Jean Paul Carlhian, recalled, "the atelier was to provide the home base for the student for the whole duration of his life at the Ecole."[34] That was the place where aspirants could prepare for the admission exam, and where the preparation of design exercises as well as the "core of the Ecole's educational system took place."[35]

Despite these similarities between the ateliers and the Medieval guild workshop, there is one main difference between them. While the latter had a professional vocation, where the master's trade was also the place for pupils' training, the major ateliers at the École in Paris were instead meant for educational purposes only. Atelier patrons would instead run their professional practice in a separate 'office' (*agence*).[36] During the nineteenth century, the number of students increased at the École, and so did the size of the ateliers.[37] While at mid-century, there were about a dozen ateliers which had only one or two active students who took part in exams and competitions,[38] the majority of active students in the section of architecture chose to join larger ateliers, which had between fifteen and twenty-five members.[39] During the second half of the century these numbers increased with most students belonging to ateliers which could contain from thirty to eighty members (Figure 19).[40]

[33] Chafee, "Teaching of Architecture at the École," 95.

[34] Carlhian, "Modes and Manners," 8.

[35] Carlhian, "Modes and Manners," 8.

[36] Chafee, "Teaching of Architecture at the École," 89.

[37] David de Penanrun et al., *Les architectes élèves de l'Ecole*, 54.

[38] *Revue Générale de l'Architecture et Des Travaux Publics*, X (Paris, 1852), cols. 301–3, https://archive.org/details/revuegnraled101852pariuoft/page/150/mode/2up.

[39] Chafee, "Teaching of Architecture at the École," 89.

[40] Chafee, "Teaching of Architecture at the École," 89–90.

Figure 19. Group photo of students at Atelier Coquart (1878). (From Les architectes élèves de l'Ecole des beaux-arts, 1793-1907*, p.123)*

As the average atelier was meant for educational purposes only, it did not pursue working commissions, or work on real projects to be built. Its members did not have working relationships with their patron such as apprentices did in medieval workshops, so students had to necessarily provide for themselves. Although studying at the École required no tuition fees, being part of an atelier did,[41] as well as living in a city like Paris required students to be able to support their own living.

And although American journals of the time stressed the liberalism of the École, a school which provided free instruction and that was "open to all without distinctions of nationality,"[42] in fact, it was not. Atelier Coquart portrayed in a photograph from 1878 (Figure 19), could give an idea of what the members of an atelier in architecture looked like. All men, all white, no women, still showed the hegemony of a gendered discipline. Dark suits and ties, as well as frock coat, top hat, canes, showed that education at the École was in fact not free, and only opened to restricted elite families, those belonging to middle-class-like bourgeoisie who could afford to have their male heirs without the need to work for wage salary.

[41] Chafee, "Teaching of Architecture at the École," 82.

[42] *The American Architect and Building News*, "L'École Des Beaux-Arts," 119; *The Architectural Record*, "History of the School," 16.

Not only were ateliers places accessible to a restricted circle of people, but unlike the Renaissance workshops, they were also self-managed by students themselves. The patron, whose name identified an atelier and who imparted the teaching, would only schedule his teaching at the atelier two or three times per week.[43] The rest of the days, students could self-organize their agenda of classes at the École and training activities at the atelier. At each atelier, students would elect a long-time member to be the *massier* responsible for the administration.[44] The *massier* would collect dues from each student that mainly served to cover the running costs of the atelier, rent, coal for the stoves, oil for lamps or candles, and also a fee to pay the patron.[45] Larger ateliers would provide a more structured social hierarchy with roles such as the *massier*'s deputy, a deputy in charge of supply new tools and working materials, a sergeant and a caporal; all roles were agreed upon in discussions with the atelier members.[46] In some cases, the *massier* could even accept the new aspirant students.[47]

Despite the detailed level of social organization, the average atelier showed the characteristics of a quasi-domestic place run by a crowd of middle-class young men with the same interests, and whose conduct also adhered to the tone of the place. A written memoir from an American architecture student, Walter D. Blair, provided the description of his atelier and life inside it at the turn of the century:

> The walls of the rooms are decorated with caricatures and pictures until a dark somber tone is attained that accords well with the dirt, dishevelment, and confusion of the place. The lighting is by candle, each man furnishing his one or two candles that are stuck to the board on which he is working. The air of the room is close, for there is no ventilation. Silence never prevails. Jokes fly back and forth, snatches of songs, excerpts from operas, at times even a mass may be sung, yet amid the confusion and babble—strange as it may seem—work proceeds.[48]

[43] Chafee, "Teaching of Architecture at the École," 93.
[44] Chafee, "Teaching of Architecture at the École," 91.
[45] Chafee, "Teaching of Architecture at the École," 91.
[46] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 63–64.
[47] Chafee, "Teaching of Architecture at the École," 91.
[48] Walter Dabney Blair, "Student Life at the École," 54.

Compared to the École building, the Palais des Etudes, ateliers were not exemplary places to be exhibited, or meant for the students to draw inspiration from in their drawings. They functioned as semi-private spaces where students could spend most part of their day. They were not course classes. They were not students' own residences. Yet, as Jean Paul Carlhian described, they were like a second home to the students. As such, they also showed the conditions of collective living and of sharing the same space. And with some exception,[49] most ateliers provided a messy cheap space with few essential comforts (Figure 20).

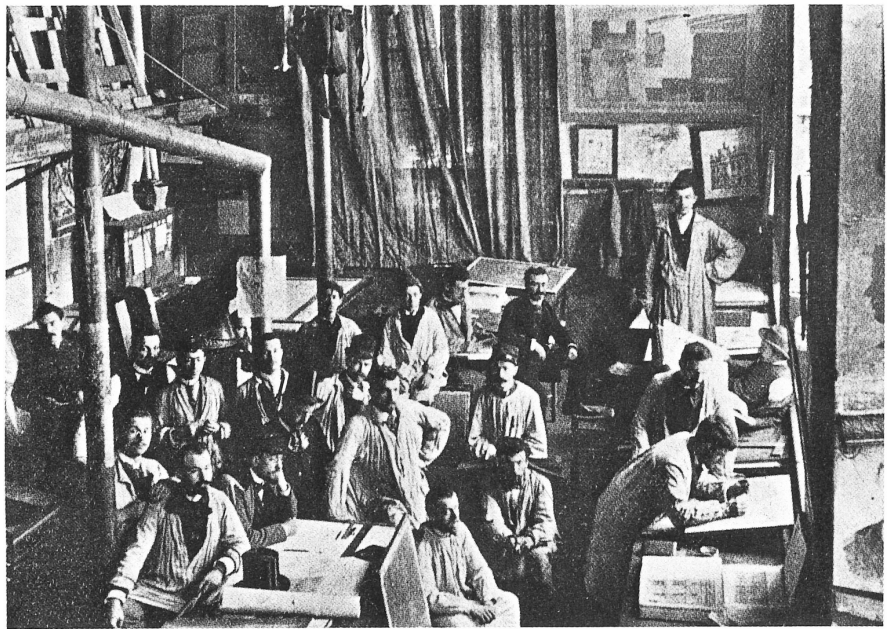


Figure 20. Example of atelier setting and its use at the turn of the century. (From Drexler, The Architecture of the École*, p. 91)*

Several stoves with a tangle of exhaust pipes provided the heating during the cold season. Sometimes they smoked. Sometimes they were not enough to heat up the atelier. In a letter with his relatives, the young student Louis Sullivan (soon to become a master architect in the United States) described the atelier he got into, Emile Vaudremer's on Rue du Bac:

[49] See for example Laloux's atelier as described in Chafee, "Teaching of Architecture at the École," 90.

> It is the damnedest pigstie [*sic*] I ever got into. First it's cold, and then when you light the fire it smokes so that it nearly puts your eyes out, and you have to open the windows, which makes a devil of a draft, which is not to be recommended for people with a cold.[50]

And although ateliers were not offices and did not generate an income with working commissions, they were still places for work and material production. In exchange for their fee, the atelier supplied students with the minimum equipment and facilities for carrying out their projects. In architecture, the students needed a room with space for drawing, and access to natural light. The most important piece of furniture for the students was their desk, a drawing board large enough to contain the average size of a paper sheet where they could work on their projects. Stools were also part of these essentials, although students could also stand or lie down on the table depending on the kind of drawing they were to perform (Figure 21).

Most ateliers also had some comforts. For example, there was usually a space dedicated for a small library with a selection of principal titles for architecture that were at students' disposal.[51] On the shelves, among other books, the students could find photographs of awarded projects and winning Prix the Rome, architecture treatises such as those of Palladio, Vignola, architecture encyclopedia, building projects from ancient Rome, etc.[52] Not least, the ateliers provided space to store old winning projects, raw materials, and other tools (Figure 20).[53]

[50] Willard Connely, *Louis Sullivan as He Lived. The Shaping of American Architecture* (Horizon Press Inc., 1960), 62, https://archive.org/details/louissullivanash00conn/page/n7/mode/2up.

[51] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 60.

[52] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 60.

[53] Lambert, "La Pédagogie de l'atelier."

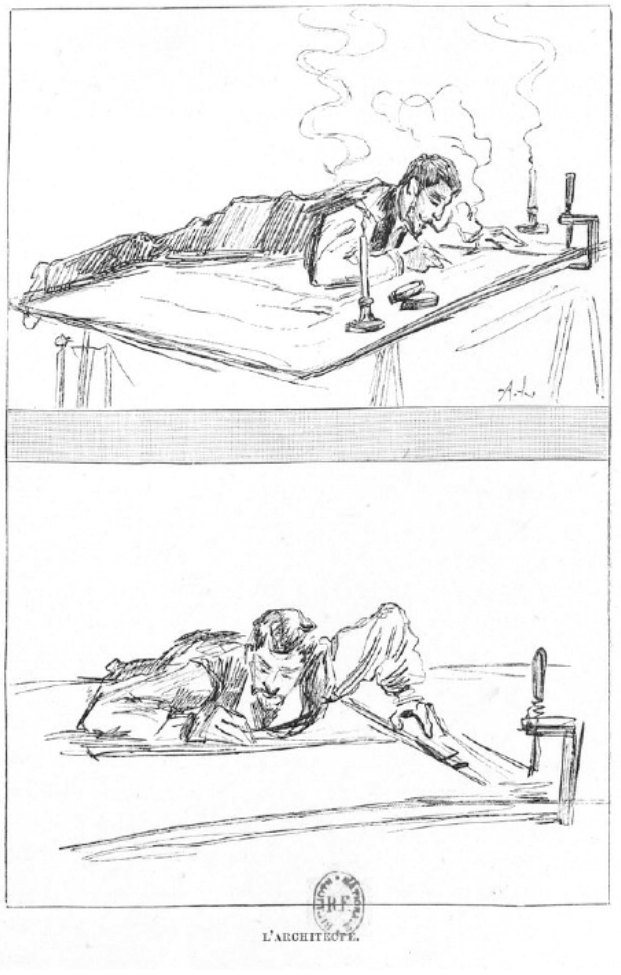


Figure 21. A student lies down on his board to draw details on his project. (From Lemaistre, L'École*, p. 215)*

3.2 Learning to win, not to build

The École des Beaux-Arts maintained an educational setting reminiscent of early Renaissance academies, but it also had a unique model for training contemporary architects. Unlike other Parisian schools such as the École Polytechnique, École Centrale, and Normale Supérieure, which also taught architecture in the nineteenth century, the École des Beaux-Arts did not focus

on preparing students for practical work.[54] As historian Jean-Philippe Garric put it, the École "remained the exclusive institution for training elite architects, those interested in the artistic dimension of their work."[55]

But what defined students' perception of their education? What kind of training and learning had a lasting impact on them? This part of the chapter examines a few voices from students and their views by exploring the daily training practices that shaped their experience.

For a nineteenth century aspirant architect the École could look like a contest with prizes and rankings, and where students individually engaged in monthly art competitions to measure their artistic skills with each other.[56] The ultimate achievement was the Prix de Rome, a prestigious annual competition whose winner earned a fully founded five-year stay in Rome to study classical masterpieces at the French Academy.[57] Upon returning to Paris, winners would join the élite circle of those who won the Prix before them, gaining opportunities to design public buildings, open their own ateliers, and even become École professors.[58]

Criticism, both given by the master and received from other students, was central to this system of education. Its practice was the way students had to move forward in the curriculum.

This competition-driven model fueled the intense environment of the ateliers. As Paul Philippe Cret, a former student, observed, the Prix de Rome acted as a "bait," and "encouraged the students to remain there [the atelier] too long instead of supplementing the teaching of the School with what can only be learned effectively in an office."[59] All competitions, including the Prix de Rome, were purely paper-based exercises—projects meant to be displayed on a wall of an art salon exhibition, rather than built.

As a result, the École fostered an educational system detached from real-world architectural practice, perpetuating itself through generations. Students sought out ateliers led by Prix de Rome winners, hoping to follow the same path to fame. This model remained remarkably persistent over time, influencing architectural education worldwide.

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[54] Paul P. Cret, "Ecole Des Beaux-Arts and Architectural Education," 13.

[55] Jean-Philippe Garric, "The French Beaux-Arts," *Companion to the History of Architecture* III (2016): 12, https://doi.org/10.1002/9781118887226.wbcha080.

[56] Chafee, "Teaching of Architecture at the École," 83.

[57] Garric, "French Beaux-Arts," 6.

[58] Garric, "French Beaux-Arts," 9–10; Chafee, "Teaching of Architecture at the École," 87–88.

[59] Paul P. Cret, "Ecole Des Beaux-Arts and Architectural Education," 13.

Racing and ranking

One of the main aspects that students like Sullivan, Cret, Lemaistre, and Carlhian,[60] seem to remember the most about their training at the École was the spirit of individual competition. It started for everyone with the entrance examination and ended, only in the best cases, with the victory of the Prix de Rome.[61] In architecture, aspirants students had to undergo a sequence of drawn, written, and oral tests during a time of three weeks,[62] which ranked participants at each stage, allowing only the best ones to access the following steps.[63] Due to its difficulty, many students had to take their entrance exam several times before being accepted.[64] Louis Sullivan recalled in his *Autobiography* the time during the preparation of his entrance exam in 1874. Although he had already studied at Boston Tech and worked several years in architect offices before moving to Paris, he described this moment (writing about himself in third person) as one of his most intense periods of work:

> he had scanned the Program of Admission, and was startled again at the range of subjects he was not up on… He knew it meant six weeks of the hardest work he had ever done. He figured on eighteen hours a day. He knew he was in physical condition. He would allot one hour each day to gymnasium work, and keep on simple diet.[65]

It was even common for aspirants to hire a private tutor for receiving support during the preparation of the entrance exams.[66] Sullivan had hired one in mathematics for his preparation to the entrance exam.[67] But from the second half of the century, students could also choose to enroll in *ateliers préparatoires*, exclusively meant to support aspirants during the preparation to their entrance examination.[68] Once the aspirants had passed this phase,

[60] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*; Sullivan, *Autobiography*; Paul P. Cret, "Ecole Des Beaux-Arts and Architectural Education"; Carlhian, "Modes and Manners."

[61] Chafee, "Teaching of Architecture at the École," 88.

[62] Sullivan, *Autobiography*, 228.

[63] Walter Dabney Blair, "Student Life at the École," 52; Carlhian, "Modes and Manners," 8.

[64] Chafee, "Teaching of Architecture at the École," 82.

[65] Sullivan, *Autobiography*, 220.

[66] Chafee, "Teaching of Architecture at the École," 82.

[67] Sullivan, *Autobiography*, 220.

[68] David de Penanrun et al., *Les architectes élèves de l'Ecole*, 125.

they finally became students (*élèves*) of the École des Beaux-Arts, and entered the second class.[69]

Students followed their education individually selecting their classes and challenging themselves by taking part in *concours d'émulation* (competitions). Apart from those scientific subjects which required passing an exam, taking part in *concours* was the way in which students trained in their respective discipline and the only way in which professors assessed their learning.[70] For architects, the *concours* were divided in two categories of drawing: the *projets rendus* (rendered project requiring several weeks of work), and the *esquisses* (sketches carried out in one day). They were issued monthly and alternating between *esquisses*, *projets rendus* and from 1876 also the section *éléments analytiques* where students were to analyze elements and style from classical architecture.[71] Students started each competition *en loge* (literally 'in a closed room,' meaning that students could not communicate or receive external influence) working individually on their ideas. Apart from those competitions regarding *esquisses*, where students submitted their work in the same day, they would work and complete their project at their own atelier, usually within two months.[72] Projects would then be assessed behind closed doors from a jury, and students would only see their results and ranking once the jury finished the evaluation.[73]

Preparing for competitions took up much of students' education, with a wide variety of *concours* held each year. In architecture alone, the École issued thirty-six competitions for first and second class per academic year.[74] Then there were also several other *grand concourses* issued annually, or biannually,[75] and the yearly *Gran Prix de Rome*, which encompassed three consecutive parts distributed on a time span of six months.[76] To stay enrolled at the Ècole, a student had to undertake one or two *concours d'émulation* per year.[77]

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[69] Chafee, "Teaching of Architecture at the École," 82.

[70] Chafee, "Teaching of Architecture at the École," 83.

[71] Chafee, "Teaching of Architecture at the École," 83.

[72] Chafee, "Teaching of Architecture at the École," 83.

[73] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 220–23.

[74] Carlhian, "Modes and Manners," 9.

[75] David de Penanrun et al., *Les architectes élèves de l'Ecole*, 82–90.

[76] Chafee, "Teaching of Architecture at the École," 86.

[77] See Drexler, *The Architecture of the École Des Beaux-Arts*, 85; and see also Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée Par Un Élève*, 367.

As competitions were based on fixed time schedules and ranking, they often felt like races against time, where students worked tirelessly to perfect their projects until the deadline. Deadlines always occurred at the same time: submissions were due at noon the day the competition ended, at the Hall Molpemène inside the school.[78]

For the students participating in a competition, the delivery of projects literally took the form of a race in the neighborhoods around the school. As recalled by Alexis Lemaistre, when approaching the time of their deadlines, students used to load their projects into *charrettes* (the Parisian hand carts) and run on the streets toward the school to submit in time[79] (Figure 22). This final rush toward the school became for students a ritual at the end of each competition, and the *charrette* came to symbolize the last phase of the competition—the rushing working hours and race prior submission.[80]

Many were the students who recalled these intense moments of work at the École in the form of stories or with images. Among them, the American Charles Collens published his memories in the *Journal of the American Institute of Architects*, including a personal sketch of the *charrette* in action.[81]

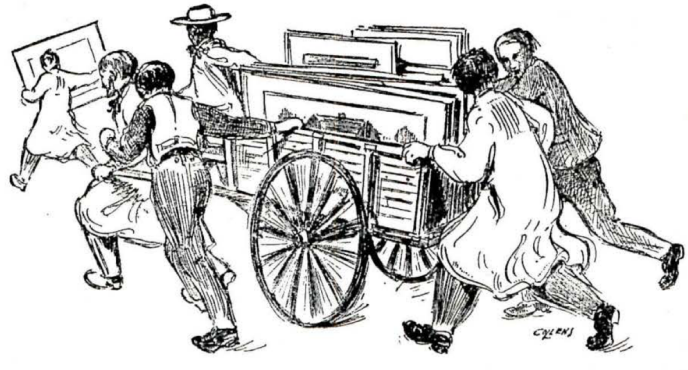

Figure 22. The Charrette used by students to deliver their projects at the school in the last day of their competition by Charles Collens. (From: "The Beaux-Arts in 1900," AIA Journal, February 1947)

[78] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 213.

[79] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 218–24.

[80] Chafee, "Teaching of Architecture at the École," 92.

[81] Charles Collens, "The Beaux-Arts in 1900," *Journal of the American Institute of Architects* VII, no. 2 (1947): 80–86, https://www.usmodernist.org/AJ/AJ-1947-02.pdf.

Like in a race, assessing students' projects and ranking them defined their progress through the curriculum. Special juries assessed students' work in each competition and graded them with points (*valeurs*) and prizes (*prix d'émulation*); some competitions awarded medals for the best projects, while others awarded special mentions for distinction.[82] In order to pass from second to first class, students had to collect at least one or two medals, four points in design, two in elements of architecture, and mentions in all the other subjects.[83] Similar conditions applied for the student in the first class, but competitions presented a higher level of complexity.[84]

Ranking was a main concern for students. It influenced their education and made them aware of their status. Ranking served to regulate most of the training activities at the École. For example, having a better ranking meant having better positions when attending life-drawing classes (drawing from live nude models). Lemaistre recalled how in sculpture classes, a roll call was held every Monday, allowing prizewinners, medalists, and first-class students to choose the best seats near the models, and then followed by the rest, with aspirants seated last.[85] The same system applied in painting classes, where professors ranked students twice a month based on their merit.[86]

Though competitions were individual, students found support in their ateliers, where both their patrons and peers played a crucial role in their education.

Learning from criticism

The atelier was also the place where students could both receive feedback for their work and exercise criticism on that of their peers. Outside the atelier, juries assessed students' projects only behind closed doors, offering no feedback beyond awarding medals, mentions, or simple pass/fail judgments.[87] In contrast to the École system of public rankings and judgment, students could

[82] Awarding students with prizes and medals is another point in common with Renaissance academies that has also been discussed by Pevsner, see or example Pevsner, *Academies*, 51–52, 61, 70, 77; see also Federico Zuccari's account about the academy in Florence Ważbiński, *L'Accademia Medicea*, 2:492; see Lamaistre about awarding prizes at the École Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 367–73.

[83] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 368; Walter Dabney Blair, "Student Life at the École," 53–54.

[84] Chafee, "Teaching of Architecture at the École," 85–86.

[85] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 84–85.

[86] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 35.

[87] Chafee, "Teaching of Architecture at the École," 85; Carlhian, "Modes and Manners," 14.

find in an atelier a place to get feedback and support during the preparation of their project competitions.

Students placed great trust in their ateliers, choosing them for various reasons—often due to a patron's reputation, teaching success, or personal connections.[88] A patron's "own prize marked his excellence in design," while students' prizes indicated his teaching qualities in advising winning projects.[89] Since students selected their atelier freely, "this free choice constituted a bond of friendship" between the student and the patron, and for some students he could even become like a father, "*le père un tel*."[90].

To some students, patrons became like idols and examples to emulate. In an account written after the death of patron Jean Louis Pascal, student John Burnet described his first meeting with him in 1877 as a defining moment of his education:

> His fine, intellectual head with his rather long black hair and keen though kindly eyes, his beautiful courtesy as he greeted my father in perfect English as a brother artist, immediately won my admiration, and I felt that he was just the type of man one would expect to create such work as I had seen and delighted in on my arrival in Paris; and one under whom it would be a privilege to study. To me he seemed then, and I still believe he was, the ideal type of architect, eminently sympathetic, breathing efficiency, and prepared to spend himself in understanding the needs of his day and generation, and giving them artistic expression.[91]

While his tone celebrated the patron's positive qualities, as one would expect from an obituary, it also revealed the nature of the relationship between students and their patrons. Pascal did not only provide his students with a knowledge of the discipline. He served as a role model, inspiring trust as a reliable guide for his students.

Trusting your patron also meant believing in his capacities as a critic and motivator. Again, Burnet's words about Pascal reflected the patron's qualities as a mentor guiding his students' work:

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[88] Carlhian, "Modes and Manners," 7.

[89] Chafee, "Teaching of Architecture at the École," 89.

[90] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 39.

[91] John J. Burnet, "Jean Louis Pascal. An Old Pupil's Appreciation.," *R.I.B.A. Journal* XXVII (June 1920): 400.

> In the atelier it did not seem to take him an instant to realize the possibilities of any sketch that his pupil might put before him, and he always left us either happily convinced that our sketch was not worth further trouble, or with our eyes opened to artistic possibilities in it of which we had not dreamed, giving us courage to go through the days and nights required to make finished drawings. He had a wonderful power of accepting the conception of his pupil and helping him to develop it in his own way…[92]

For students like Burnet, a patron had the ability to guide their work, offering both inspiration and motivation.

At the atelier, patrons gave individual critiques through one-on-one dialogue with students, providing both verbal and drawn feedback (see Figure 23). While each critique focused on a single project, all students observed and learned from one another's reviews. Architecture student Harry Sternfeld described this shared experience at Léon Jaussely's atelier:

> When he arrived… He had moved from table to table, with the *élèves* grouped behind him with bated breath—not one word or other sound disturbing his criticism. Every word was treasured (the older men would interpret his critique later, for the benefit of all).[93]

From the students' descriptions, their patron appeared awe-inspiring. They respected him so much that they wouldn't dare interrupt or ask for clarification. But it also meant that criticism could at times be fuzzy or ambiguous. Sternfeld's description sounded like the patron's words were like a parable that the older disciples needed to interpret to the younger students. His time was precious, and they valued his criticism above all.

Individual criticism from a patron was rare. In most cases, patrons were not part of the atelier's daily life and were more like visiting stars, appearing two or three times a week.[94] And with many students to critique, their feedback could sometimes feel rushed. Lemaistre's sketch (Figure 23) captured a similar dynamic, showing a professor giving feedback (probably inside the *cour vitrée*) while still wearing his hat and holding his coat. This

[92] John J. Burnet, "Jean Louis Pascal," 400.

[93] Harry Sternfeld, *NIAE Golden Jubilee Journal* (New York, 1964), 53.

[94] Chafee, "Teaching of Architecture at the École," 93–95.

situation might suggest he was in a hurry. Or, at least, if balancing a coat while drawing was inconvenient, it hints at how brief these interactions could be. A third possibility might be that the professor was on his way out and took the time to stop and briefly comment on one student's project. Contrary to the idea of a familiar friendship between students and their patron, this suggests an increasing social distance between instructor and pupils—especially when compared to the medieval workshop, where students trained closely alongside their master, and were almost family members.

Figure 23. Alexis Lemaistre' sketch represents a critiquing session between professor and student during a drawing class (probably taking place inside the cour vitrée). (From: Lemaistre, L'École*, p.65)*

Since patrons were not constantly present in the atelier, students had to find other ways to receive feedback on their work. The *anciens* (older students) and the *nouveaux* (newly arrived) would mutually support each other.[95] *Anciens* critiqued the designs of second-class students, and in exchange the *nouveaux* assisted the *anciens* with simpler, repetitive drawing tasks like shading facades, repeating ornament patterns, and inking plans.[96]

Some students found this peer exchange more valuable than their patron's guidance. Charles Collens recalled how the *nouveaux* could learn more from an *ancien* than from a patron in a year, as "the free, untrammeled criticism that you got on all sides was worth more than all the perfunctory talk that would come from a more refined arrangement."[97] Jean Paul Carlhian also described the *anciens* as the primary source of support, while the patron remained the head "whose reputation, prestige, busy schedule…prevented him from providing any form of individual attention to the hundred or so bodies which constituted his atelier."[98]

However, all instruction within the atelier revolved around competition projects, the sole requirement for advancing in the curriculum. As John Burnet noted, his patron Jean Louis Pascal never spoke about his own work or brought it into atelier discussions.[99] Design education at the atelier remained focused on competitions, keeping the actual practice of architecture largely separate from training.

Architecture as painting

Although architecture at the École followed the same competition-based model as painting and sculpture, it revealed an important difference. While painters and sculptors worked with the medium of their respective arts, architecture students conveyed their designs solely through drawings. This distinction is evident in the outcome of the Prix de Rome: paintings and sculptures were already products of their respective arts, whereas architecture entries existed only as conceptual projects represented on paper, and not as built artifacts. As a result, architecture students could perceive

[95] Chafee, "Teaching of Architecture at the École," 92.
[96] Chafee, "Teaching of Architecture at the École," 92.
[97] Collens, "Beaux-Arts in 1900," 86.
[98] Carlhian, "Modes and Manners," 8.
[99] John J. Burnet, "Jean Louis Pascal," 400.

their work as pure intellectual expression of their art, requiring only drawing skills rather than manual craftsmanship.

The practice of designing architecture through drawings—using plans, sections, and elevations—had remained largely unchanged since the Renaissance, though with some changes in its function. As historian Alberto Pérez-Gómez noted, Renaissance architects, who were also builders, used drawings as tools to guide the construction. By the 18th century, however, there had been a progressive shift toward conceiving drawings as epitome of architecture itself.[100] Eventually, architectural drawings became intelligible expression of architects' intention and "able to dictate to a mason or carpenter a series of operations through working drawings or precise detail designs," without requiring the architect to be involved in the building phase.[101]

Figure 24. Salon exhibition of architecture projects at the end of 19th century. (From: Les architectes élèves de l'Ecole des beaux-arts, 1793-1907*, p.147)*

Nineteenth-century architectural competition projects at the École were presented much like paintings in a salon exhibition (see Figure 24). As a result, students devoted great care to their final presentations. Jean Paul Carlhian described in detail this process, which students knew very well and repeated many times. On a six-week project, a student might spend three weeks developing the design idea on its own, and another week preparing the final presentation, often with the help of several classmates working toward the deadline.[102] After the student rubbed the final drawings onto the

[100] Alberto Perez-Gomez, "Architecture as Drawing," *Journal of Architectural Education* 36, no. 2 (1982): 2–7, https://doi.org/10.2307/1424613.

[101] Perez-Gomez, "Architecture as Drawing," 4.

[102] Carlhian, "Modes and Manners," 16.

presentation sheet, completing them required a team effort. Students worked simultaneously from the four sides of the sheet, inking lines and adding shadows, before watercolorists brought the drawings to life by rendering the surrounding environment in the project.[103] A sketch by Alexis Lemaistre (see Figure 25) captures the intensity of this final preparation. The results of students' design efforts were projects on paper, meant to be framed, just like other paintings. The finished projects were more than just technical drawings. Before submission, students mounted their designs and glued them on rigid supports and wooden frames.[104] Once completed, all projects were displayed together in the Salle Melpomène for evaluation.[105]

Like paintings in a salon exhibition, architecture projects for the École's competitions were flat objects meant to be viewed, not built or inhabited. Their evaluation followed strict rules on representation style. Carlhian noted how until the twentieth century "any addition [to the final drawings] in any form to the surface of the paper was strictly forbidden."[106] Photographs, collages, or even "glued-on paper repairs" would cause a project to fail.[107]

All projects had to follow rigid rules of representation with uniform standards and drawing conventions. Their composition used similar templates, presenting an assemblage of plans, sections, and elevations prospects, with the main views carefully rendered in detail.[108]

At the École, the way a project looked on paper always had priority over its real feasibility. Art historian David Van Zanten noted how composition was central to the design of a building, shaping its plan, elevation, and section.[109] However, he argued that composition was not just about how students conceived a building in its "*parti*" but, more importantly, how they presented their ideas on paper.[110]

[103] Carlhian, "Modes and Manners," 16.

[104] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 212–17.

[105] Chafee, "Teaching of Architecture at the École," 93; Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 219–23.

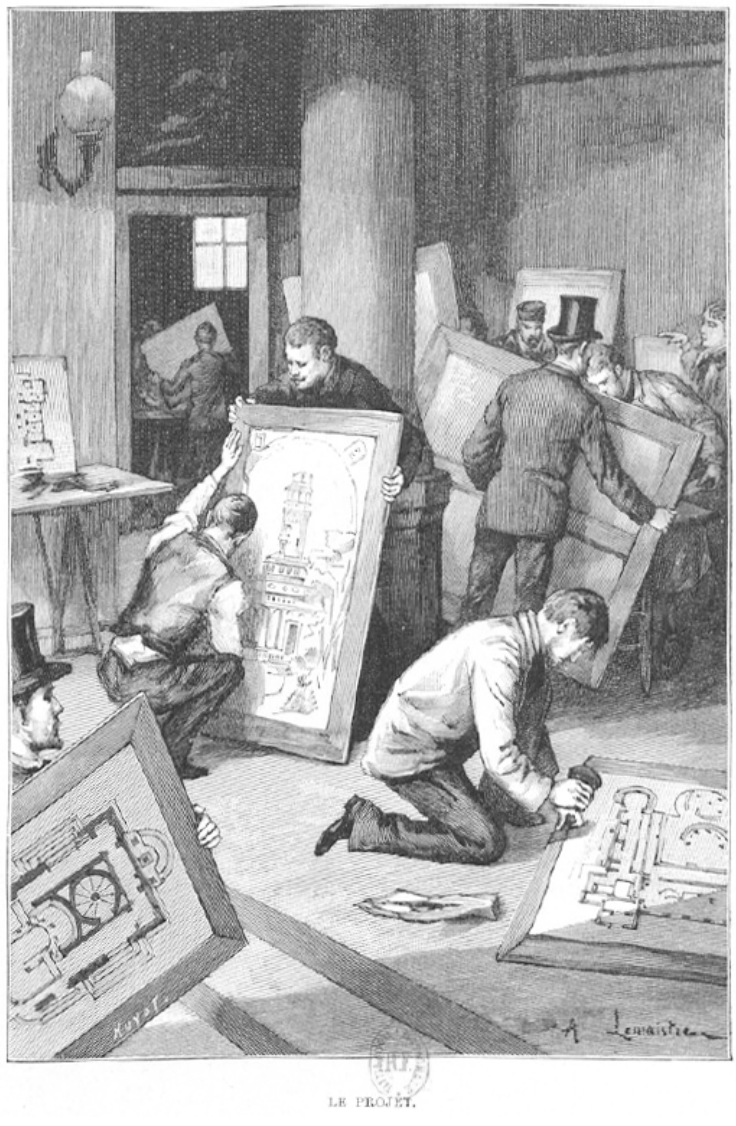
[106] Carlhian, "Modes and Manners," 17.

[107] Carlhian, "Modes and Manners," 17.

[108] See for instance the collection of images and drawing included in Van Zanten, "Architectural Composition at the École."

[109] Van Zanten, "Architectural Composition at the École," 112.

[110] Van Zanten, "Architectural Composition at the École," 112–15.



LE PROJET.

Figure 25. The preparation of projects prior submission.
(From: Lemaistre, L'École*, p. 361)*

Students' own recollections of their education reinforced this idea. Lemaistre's account includes a fundamental principle of École teaching—one that students were expected to know by heart:

> The study [and representation of projects] followed three forms: the plan, the section and the elevation; the plan confirms the suitability of the building, the section confirms its solidity; elevation confirms its elegance or nobility—in a word, its beauty.[111]

Another student, Paul Philippe Cret, described the outcome of concourses emphasizing the role of plans as "decorative compositions." He noted that a *beau plan* (beautiful plan) was valued as "a pleasing picture in itself" rather than a functional diagram for organizing spaces.[112]

A project's aesthetic quality took precedence over construction and technical details, which remained largely irrelevant—even for some architects in their professional practice. As Pevsner observed, even renowned artists like Charles Percier and Pierre-Paul Prud'hon could produce exquisite designs but were unable to describe the technical process of building it.[113] And since competition projects were never meant to be built, their scale and proportions were rarely a concern.[114]

Aesthetic quality also prevailed over technological development. While World Expositions showcased and tested the latest innovations in construction, new building technologies entered the École's curriculum only through the teaching of construction. Students demonstrated their understanding of building techniques and materials solely through drawings and some mathematical calculations, rather than practical application.[115]

Technology played a more significant role in the drawing process, which occupied the main part of architecture students' training. Lemaistre noted that students were especially attentive to the type of paper used for their final

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[111] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 161; For examples of projects see: École nationale supérieure des beaux-arts, *Les Grands Prix de Rome d'architecture de 1850 à 1900. Extraits Des Programmes Des Concours.* (Armand Guérinet, 1900), https://archive.org/details/gri_33125015404425/page/n123/mode/2up.

[112] Paul P. Cret, "Ecole Des Beaux-Arts and Architectural Education," 12.

[113] Pevsner, *Academies*, 249.

[114] Carlhian, "Modes and Manners," 17.

[115] Chafee, "Teaching of Architecture at the École," 83.

presentations.[116] High-quality, expensive paper like Whatman type was reserved for finished projects,[117] while tracing paper—by the late nineteenth century a standard tool for professionals—was used for all the other drawings.[118]

Students paid close attention to the quality and variety of their drawing tools. Carlhian recalled that while essentials like T-squares, ruling pens, compasses, and 45° triangles were standard, certain tools could make a difference among students.[119] For example, a "precious instrument" like proportional dividers allowed for quick scaling without complex calculations.[120] Even small details mattered; the invention of three-pronged Swiss thumbtacks helped the students secure multiple drawing layers without damaging the paper.[121]

This emphasis on tools extended to instructors as well. In the late nineteenth century, Julien Gaudet, professor of architectural theory, dedicated an entire opening chapter of his *Elements and Theory of Architecture* on how to select and use drawing tools for architecture students.[122] He provided detailed descriptions, illustrations, and instructions to help students achieve the highest level of precision in their work (see Figure 26).[123]

At the École, architecture remained an academic exercise centered on student competitions. And the material output of this art—the design project—was meant to be experienced and critiqued on paper, not taken to the construction site.

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[116] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 93.

[117] Lemaistre, *L'École*, 212.

[118] Dard Hunter, *Papermakin. The History and Technique of an Ancient Craft* (Dover Publication, 1947), 564, https://archive.org/details/papermakinghisto0000hunt_i4x7/page/264/mode/2up.

[119] Carlhian, "Modes and Manners," 17.

[120] Carlhian, "Modes and Manners," 17.

[121] Carlhian, "Modes and Manners," 17.

[122] Julien Gaudet, *Éléments et Théorie de l'architecture; Cours Professé a l'École Nationale et Spéciale Des Beaux-Arts* (Librairie de la Construction Moderne, 1894), chaps. 2, Vol. I, https://archive.org/details/lmentsetthoriede01guad/mode/2up.

[123] Gaudet, *Éléments et Théorie de l'architecture*, chaps. 2, Vol. I.

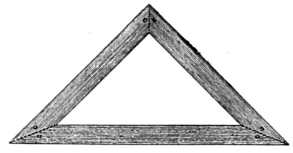

Fig. 1.

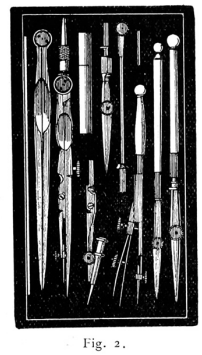

Fig. 2.

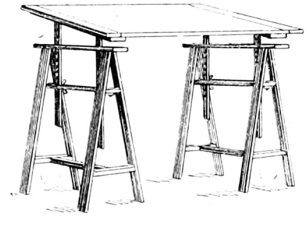

Fig. 3.

Figure 26. Examples of drawing tools used at the École. (From: Julien Gaudet, Elements and Theory of Architecture*, 1894, Chapter 2, Vol. I)*

3.3 Atelier manners

The culture of the atelier extended beyond the learning of an art discipline, encompassing a broader set of practices. Architecture historian Guy Lambert described the "semantic richness" of the atelier as covering "different cultural values" connected to student life inside and outside the atelier and its organization, of which art education represented only one.[124] This becomes evident when looking at students' own perspective of their education. Lemaistre's report on students' life at the École's focused as much attention to students' daily routines and social lives as to their training and competition preparations.[125]

Many students valued the sense of freedom provided by such culture. They were free to choose their patron, select their atelier, study at their own pace, and decide which courses and competitions to pursue.[126] Jean P. Carlhian even described it as "the greatest freedom ever granted to any student."[127] However, joining an atelier also meant adhering to a strict set of social norms and duties.

Any young pupil aspiring to become an *élève* at the École first had to join an atelier. This required a meeting with the atelier patron to demonstrate the pupil's commitment, but it also meant undergoing initiation rituals and hazing by peers.[128] Lemaistre and other students described these playful yet humiliating welcome rituals in detail. Common pranks included a mock medical exam by a student posing as a phrenologist, a staged "torture" session with a fake red-hot poker,[129] singing old songs while standing on a stool.[130] Newcomers might also be asked to engage in duel, naked, attempting to paint each other with long brushes and a bucket of paint,[131] or dodge wet sponges.[132] The initiation typically ended with the newcomers treating the group to a meal or at least a round of drinks.[133]

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[124] Lambert, "La Pédagogie de l'atelier."

[125] Of the fours book sections that compose his work, Lemaistre dedicated most of the first and the third sections to discuss students' life beside the curriculum Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*.

[126] Carlhian, "Modes and Manners," 7; Paul P. Cret, "Ecole Des Beaux-Arts and Architectural Education," 10–11.

[127] Carlhian, "Modes and Manners," 7.

[128] Chafee, "Teaching of Architecture at the École," 91–92.

[129] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 16.

[130] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 19–20, 70–78.

[131] Chafee, "Teaching of Architecture at the École," 92.

[132] Francis Lauren Vinton Hoppin, "An Architectural Knockabout," *The American Architect* XXVI (1889): 89.

[133] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 23–25.

Once admitted, the new student would soon learn the rules and social structures of the atelier. Formally, students were divided in three groups: *deuxième classe* (second-class students who passed the entrance examination), *aspirant élèves* (those preparing for the entrance examination), and *première classe* (first-class students who had progressed the furthest in their education).[134] However, in daily life, students used their own jargon and categorized themselves by seniority. *Nouveaux* were those who had submitted fewer than four projects or had not yet earned at least two mentions. *Anciens* included all others, most of whom had several years of experience in the atelier.[135]

Being part of an atelier also meant following certain rules of conduct. Lemaistre noted that the first rule was always the same: "The *nouveau* owes obedience and respect to the *anciens.*"[136] Other, more subtle rules involved using specific jargon and adopting a shared dress code. American architecture student Francis L. V. Hoppin recalled that upon joining the atelier, his comrades made him buy a high hat and a French blouse.[137] It was common for *nouveaux* "to paint an elaborate picture or some architectural motive on both back and front of this garment," and then to wear them outdoor when hanging out in the city with their mates.[138]

These examples relate much to the idea of a "favored circle" characterizing architectural education and atelier life. As architect Garry Stevens put it, art disciplines like architecture functioned as a social field where access to success was largely determined by cultural capital, and reinforced through rituals, traditions, and unwritten rules, rather than purely earned by talent or study.[139]

Hence the individual 'freedom' to be part of an atelier came at a price. Students were expected to collaborate with each other. While they competed individually, many competitions, especially advanced projects like the Prix de Rome, required extensive preparation, often beyond what one person could handle alone.[140]

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[134] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 63.

[135] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 63.

[136] See Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 63 (Translation from French provided by the author).

[137] Francis Lauren Vinton Hoppin, "Architectural Knockabout," 89.

[138] Francis Lauren Vinton Hoppin, "Architectural Knockabout," 89.

[139] Stevens, *Favored Circle*, 2–3.

[140] Chafee, "Teaching of Architecture at the École," 92.

Despite the students' sense of freedom, the collaborative practice of assisting in a final project had a specific, submissive role known as *négrifier*.[141] Borrowing from the language of slavery, the term underscored the relentless, non-stop labor of *nouveaux* and other students, under the direction of an *ancien*. Lemaistre defined it clearly: "The negro is the student who does not submit a project, and who helps his comrade, who then takes the name of patron."[142]

While Lemaistre portrayed these practices in the ateliers as recurring rather than occasional, he did not seem to distance himself from them. Neither racial discrimination nor labor exploitation was condemned in his account. What would nowadays be considered intolerably racist, offensive, and an unacceptable misuse of power—actions that create toxic environments—had been portrayed by Lemaistre as part of ordinary routines. What he described as routine conduct should be understood in light of his period's cultural assumptions. Yet, the effects of these power hierarchies have shown persistence well into more recent years. To mention but two examples, the 2022 results of environmental investigation at Barlett School of Architecture at UCL reported several years of severe misconduct among faculty and students revealing abusing situations in the classrooms, and ongoing student harassment.[143] Similarly, a 2022 scandal at Southern California Institute of Architecture (SCI-Arc) highlighted controversial ethics and practices in both academic and professional environments about labor exploitation and the promotion of an awry studio culture.[144]

Back at the École, some of these practices were well established in the ateliers. The days, and nights, prior the submission would become known among the *nouveaux* to be particularly intense, forcing the students to work side by side for long hours. Lemaistre's memoir described the final rushing

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[141] Chafee, "Teaching of Architecture at the École," 92.

[142] From the French: "*Le nègre est l'élève qui ne rend pas de projet, et qui aide son camarade, lequel alors prend le nom de patron."* in, Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 214.

[143] "UCL Apologises and Takes Action Following Investigation into the Bartlett School of Architecture," UCL News, June 9, 2022, https://www.ucl.ac.uk/news/2022/jun/ucl-apologises-and-takes-action-following-investigation-bartlett-school-architecture; *The Barlett School of Architecture. Environmental Investigation* (Howlett Brown, 2022), https://www.ucl.ac.uk/bartlett/sites/bartlett/files/the_bartlett_school_of_architecture_environmental_investigation_report_june_2022p_6.pdf.

[144] Katherine Guimapang, "Controversy at SCI-Arc over Labor Practices Leads to Faculty Members Placed on Leave. Isolated Incident or a Wake up Call for the Industry at Large?," Archinect News, April 1, 2022, https://archinect.com/news/article/150305088/controversy-at-sci-arc-over-labor-practices-leads-to-faculty-members-placed-on-leave-isolated-incident-or-a-wake-up-call-for-the-industry-at-large.

hours for finishing the projects as being "enraged" and "terrible."[145] These practices closely resemble the culture of long, grueling work hours that are still present in design education today. The 2002 AIAS report on studio culture, which criticized excessive workloads, unhealthy competition, and the normalization of overwork in design studios, is another example of their persistence over time.[146]

Rituals for a 'favored circle'

The winner of the Prix de Rome was the single student, but the glory for winning the prize was to celebrate with the entire atelier, and those who had worked as a team. Lemaistre described in detail how, after days of intense work, the winning atelier found ways to release their accumulated fatigue. One of these celebrations, *la charge*, became a festive ritual to express students' joy and excitement (Figure 27). Students would straddle their folded easels, holding brushes, sticks, or umbrellas like swords, and march in a circle, chanting phrases like "Victory! Hooray! Bravo! Glory to the atelier!" or "Long live the Prix de Rome!"[147]

The celebrations, like the effort to prepare for the competition, were key in strengthening the atelier's cohesion and its shared commitment to the discipline. Lemaistre also described how the celebrations continued outside the atelier with more organized ceremonies and processions for the Prix de Rome winners (Figure 28).[148] A red banner, featuring the Capitoline goose and cardboard medals, led the procession, followed by a fanfare of students pretending to play cardboard instruments. The Prix winner sat on a chair atop a wooden board, carried by four sturdy comrades, with the rest of the procession—a crew of noisy students—trailing behind.[149] The procession had a set route. Starting at the École, they would follow rue Bonaparte to the river quay, then stop at the Institute's portico to greet the lion bronzes.[150] The procession would end at a wine shop (*Marchand de vins*), where the winner and the whole crew would gather for drinks.[151]

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[145] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 213, 214.

[146] Koch et al., *Redesign of Studio Culture*, 3–6.

[147] From the French: "*En avant! Vive le prix de Rome!*", "Vive le prix de Rome!" from Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 262.

[148] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 265–67.

[149] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 265–67.

[150] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 265–67.

[151] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 265–67.

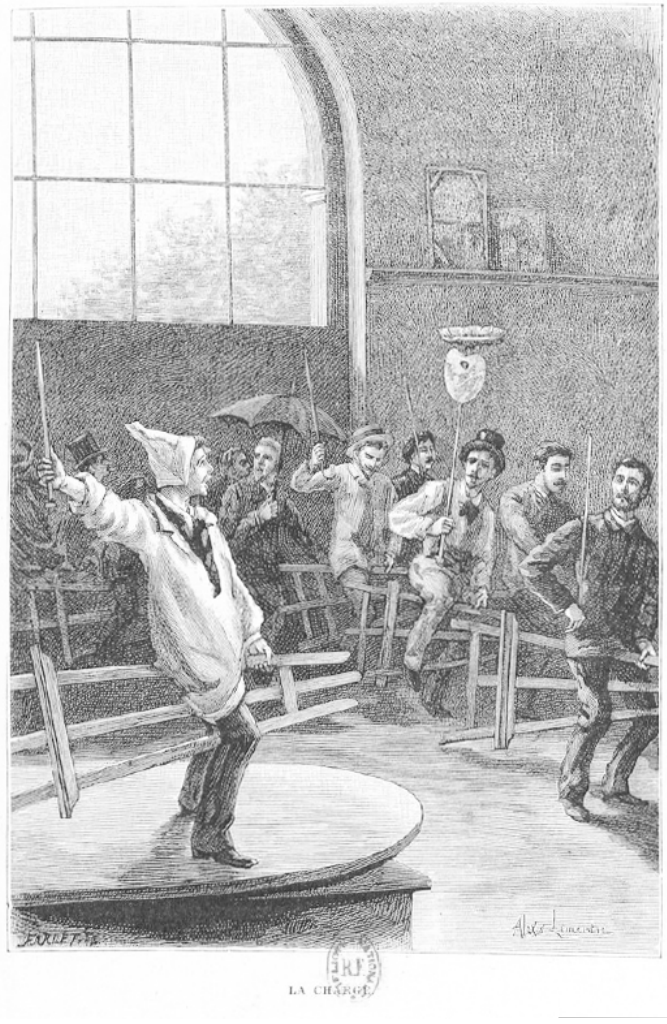

Figure 27. La Charge celebrating the victory of the Prix de Rome. (From: Lemaistre, L'École*, p. 263)*

From the outside, these processions looked like religious ceremonies. Students' devotion was directed toward their art discipline, the prize, and the winners. The recurring practice of such processions promoted a certain sacredness—worthy of reverence and respect—of their art discipline and the

victorious artist.[152] An English journalist writing about Parisian life at the turn of the century made a similar comparison, describing students' life as a form of priesthood: "Art is almost the only real priesthood left in France...In its various forms it is regarded as a working substitute for religion."[153] But while his comparison aimed at stressing the importance of art for Paris, a city which made the arts the "greatest of the national industries,"[154] it also reflected symbolic ties between artists' ways to celebrate art and Christian religious rituals.

In the second half of the nineteenth century, students' processions and celebrations at the École resembled those held by artists at the Florentine Academy of Drawing three centuries earlier. Just like at the École these rituals were complementary to students' training, taking part in educational activities at the Florentine academy was complementary to the attendance of certain religious celebrations, which were mandatory for all artists.[155] Florentine artists used to organize religious processions to celebrate the art of deceased fellows during their burial.[156] They also held artistic ceremonies for special occasions, particularly the feasts of saints, with Saint Luke revered as the patron of all artists and the arts.[157]

At the École, these rituals were not connected to the Christian religion. However, some practices carried symbolic echoes of idolatry. During student demonstrations (*monômes*), Lemaistre described how, after a day of competition *en loge*, participants would gather at the school entrance, light candles, and march to the Latin Quarter. Along the way, they would stop at monuments, bowing and saluting with their candles. If the police did not

[152] Andrea Conti and Luigi Bartolomei, "From Religious to Sacred Architecture, Pedagogy as Ritual.," *IN_BO. Ricerche E Progetti Per Il Territorio, La Città E l'Architettura,* 13, no. 17 (2022): 8–9, https://doi.org/10.6092/issn.2036-1602/16079.

[153] Richard Whiteing, *Paris of To-Day* (The Century Co., 1900), 248, https://archive.org/details/parisoftoda00whit/page/n7/mode/2up.

[154] Whiteing, *Paris of To-Day*, 215.

[155] See for instance the Statutes of the Academy of Drawing in Ważbiński, *L'Accademia Medicea*, vol. 2; see also the discussion in Matthijs Jonker, "The Cappella Di San Luca: A Crossing Point of Religious and Professional Activities of Artists in Pre-Modern Florence.," in *Material Culture. Presence and Visibility of Artists, Guilds and Brotherhoods in the Pre-Modern Era.*, ed. Andreas Tacke et al. (Michael Imhof Verlag, 2017).

[156] See for example the burial of Michelangelo discussed in Henk Th. Van Veen, "Vasari, Michelangelo e l'Accademia," in *ACCADEMIA DELLE ARTI DEL DISEGNO 450 Anni Di Storia*, ed. Bert W. Meijer and Luigi Zangheri (Leo S. Olschki, 2015), 1:31–33; See also Matthijs Jonker, "Cappella Di San Luca," 288.

[157] See Ważbiński, *L'Accademia Medicea*, 2:428; But also Matthijs Jonker, "Cappella Di San Luca," 288; and Jonker, "Academization of Art," 172.

intervene to quiet rowdy students, the night typically ended in tobacco shops and brasseries, with drinks and cigars.[158]

Figure 28. Example of a students' procession: Le Monôme. (From: Lemaistre, L'École*, p. 241)*

[158] Lemaistre, *L'École Des Beaux-Arts Dessinée et Racontée*, 228–31.

Such rituals characterized students' life as much as the intense preparation for their competitions. The *nouveaux* needed little time to understand that the experiences outside the atelier were important as much as life spent at the drawing board, for reinforcing a feeling of social belonging to an atelier, and to their artistic discipline. Louis Sullivan, for his part, enjoyed bohemian life, as "Paris was not all books and candles, pencils and projects," but also sightseeing, visits to palaces, museums, and exhibitions.[159] Similarly, Francis L. V. Hoppin described a structured daily routine outside the atelier that included afternoon tea with comrades and evenings spent in cafés, theaters, or other Parisian attractions.[160] By the end of nineteenth century, students' celebrations became formally organized, culminating in the annual *Bal des "Quatz" Arts*, (Ball of the Four Arts), an exclusive event open to students from various ateliers across Paris.[161]

Beyond these grand festivities, everyday rituals like the sharing of meals in cafes, helped shape the culture of the École. And just like preparing competitions at the atelier, they demanded students to follow specific social rules and manners.

3.4 Traveling ateliers

Despite resisting adaptation to contemporary innovations, the École's teaching model—focused on Beaux Arts architecture, project-based competitions and atelier system—received great attention from outside Paris. Many came from abroad to study at the École. Richard Morris Hunt became the first American student in 1845, followed by many others in the ensuing decades.[162] Many were those who wrote reports and diaries about their French experience at the École and its culture. Those students, like F. L. V. Hoppin, J. J. Burnet, W. D. Blair, P. P. Cret,[163] talked about that culture telling their stories, but also offered insights and advice to future aspirants who wanted to undertake the same experience.

In the second half of the nineteenth century, the École in Paris continued to attract an increasing number of students from abroad, and particularly

[159] Connely, *Louis Sullivan as He Lived*, 63.

[160] Francis Lauren Vinton Hoppin, "Architectural Knockabout," 89–90.

[161] Lucien Descaves, *The Colour of Paris. Historic, Personal, & Local* (Dodd, Mead and Company, 1915), 395, https://archive.org/details/cu31924028345423/page/n395/mode/2up.

[162] Kostof, *Architect*, 215.

[163] See discussion in the previous sections of this chapter.

from the United States. This growth coincided with a transformative period in American architecture, culminating in the 1893 World's Columbian Exposition in Chicago.[164] The Expo's "White City" showcased Beaux-Arts classicism, marking a turning point in American architectural identity.[165] It not only shaped a national design style for the next generation but also established shared standards for architectural education.[166] During the 1890s and especially after the 1893 Expo, students enrollment at the École grew significantly, with a marked increase in American students (see Table 3).

Table 3. Record of students' enrollment at the École in years 1890-1891 and 1894-1895. (From: "The Architectural Record", January 1901, p. 15)

	Years							
	1890 and 1891				**1894 and 1895**			
Countries	Painters	Sculptors	Architects	Total	Painters	Sculptors	Architects	Total
French	273	154	606	1033	280	158	714	1152
American	7	4	32	43		2	54	58
Swiss	2		22	24	1		20	21
Others	5	4	19	28	6	3	25	34

Americans made up the largest group of foreign students in every discipline. In architecture, their numbers grew by approximately 70%, rising from 32 (4,7% of the total) in 1890–1891 to 54 (6,6% of the total) in 1894–1895.

For American students, the École's conservative curriculum and deep-rooted traditions of training artists represented a structured and prestigious model of design education. As pointed out by Spiro Kostof, "Since there were no precedents for an American architectural education, any more than for an American style, the architects looked abroad."[167] And so, in the mid-nineteenth century the École provided a well-organized system of training that had no equivalent in the United States.[168]

After their studies, most American students returned home with a knowledge of the discipline and firsthand experience of the École's training practices. As Kostof pointed out, "Ideally, Americans went to Paris to learn

[164] David de Penanrun et al., *Les architectes élèves de l'Ecole*, 53.
[165] Brain, "Discipline & Style," 807.
[166] Kostof, *Architect*, 216.
[167] Kostof, *Architect*, 235.
[168] Kostof, *Architect*, 221.

the principles of Academic Classicism, not to enter the profession in France."[169] At a time when American architects were working to define their profession, push for state licensing regulations, and establish standards for education, the Beaux-Arts model aligned with their vision of professional training.[170]

This returning home of Americans who studied at the École in Paris significantly shaped design education in the United States. Schools began adopting Beaux-Arts teaching model, structuring courses around its principles, and hiring École graduates as instructors.[171] As Noffsinger observed (see Table 4), the influence of École-trained architects on American curricula was already evident by the late 1860s.[172]

Table 4. List of Architecture School in the United States founded before 1895, and respective year when there are records for the presence of École-trained architects among the faculty. (From: Brain, "Discipline & Style," 864–65)

Year of foundation	**School name**	**Record of École-trained architects in the faculty**
1865	MIT	1868
1867	Illinois	None
1871	Cornell	1896
1873	Syracuse	1893
1876	Michigan	1876
1880	Columbia	1881
1884	Columbia University	1895
1890	Pennsylvania	1893
1895	Armor Institute	1895
1895	Harvard University	1895

Many American students who attended the École in Paris returned home with a new understanding of their field. Some, like Louis Sullivan, opposed the transplanting of classical styles and educational models to the United States. In *Autobiography of an Idea*, he criticized the Expo's strict adherence to

[169] Kostof, *Architect*, 221.

[170] Kostof, *Architect*, 209.

[171] Kostof, *Architect*, 216.

[172] James Philip Noffsinger, *The Influence of the Ecole Des Beaux-Arts on the Architects of the United States* (Washington, D.C., 1955); As cited in Brain, "Discipline & Style," 864–65.

Classicism calling it a "virus" spreading from East to West.[173] He believed architectural education could only move forward with the rejection of "all pedantry, of all the artificial teachings of the schools, of the thoughtless acceptance of inane traditions, of puerile habits of uninquiring minds."[174]

However, the majority did not seem to agree with Sullivan's critique. Kostof described them as "returning enthusiasts [from Paris, who]… imitated everything French, from *cartouches* and *oeils de boeuf* to atelier slang."[175] According to a 1954 American Institute of Architects report, these students "returned home fired with missionary zeal to recreate the whole *École-atelier* system in the United States."[176]

Until the end of the century, the imitation of French architecture and Beaux-Arts education in the United States was driven by individual efforts rather than a coordinated movement. However, at a students' meeting in Paris in 1889, American alumni proposed forming an organization to promote the École system in the U.S..[177] This led to the creation of the Society of Beaux-Arts Architects in New York in 1894, with the goal of establishing a centralized national school of architecture modeled after that of the École.[178] After the 1893 Columbian Expo, the Society launched initiatives to adapt the Beaux-Arts system in the U.S.. In 1894, the Paris Prize,[179] together with the American Academy in Rome and the Rome Prize, were established to maintain a direct connection with the École.[180] Following the Parisian model, American ateliers emerged across the country. Some returning students had already established their atelier, including Richard Morris Hunt in New York (1857), his former students, William Robert Ware and Henry Van Brunt, in Boston, and Henry Hobson Richardson among others.[181]

The attempt to replicate France's long-lasting tradition of Beaux-Arts education in the United States clashed with the country's growing

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[173] Sullivan, *Autobiography*, 324.

[174] Sullivan, *Autobiography*, 259.

[175] See Kostof, *The Architect*, 221 *Cartouches*, also called cartouch, is a particular decoration used to embellish buildings facades. *Oeils de boeuf* is the French for 'bull's eye' and it is a circular or elliptical window, usually placed in upper storey or roofs. .

[176] "The Architect at Mid-Century. Evolution and Achievment; Report. v.1. AIA (1954)," 1954, 99, https://babel.hathitrust.org/cgi/pt?id=mdp.39015025998868&view=2up&seq=6&skin=2021.

[177] "Architect at Mid-Century," 99.

[178] "Architect at Mid-Century," 99.

[179] "Architect at Mid-Century," 99.

[180] Kostof, *Architect*, 216.

[181] Madlen Simon, "The Beaux-Arts Atelier in America," *84th ACSA Annual Meeting*, 1996, 319.

technological advancements and industrial demands, as well as similar trends worldwide. David Brain has argued that the Beaux-Arts—both as a style and a teaching model—provided a structured foundation for the organization of the professional practice, for the building of architecture that could succeed in a competitive market, and for the training of future practitioners.[182] For him, this "American Renaissance" was a necessary phase for shaping the modern design professions.[183]

In education, North American schools shaped their programs and settings along with that of Parisian Beaux Arts. Like in Paris, the Society of Beaux-Arts Architects, which in 1916 became the Beaux-Arts institute of Design, regularly issued programs for all competitions, including that for the Paris Prize, to the affiliated Universities.[184] Similarly to the École and its Palais des Etudes, American schools like the Graduate School of Design (GSD) at Harvard sought to provide students with exemplary places to copy from. The architecture school at Robinson Hall, just like the *Cour Vitrée* provided Harvard students with an ample collection of casts and examples of the antiques for the students to copy from.[185]

Atelier culture permeated American schools leaving tangible signs both in students practices and jargon. Terms like 'charrette,' 'jury,' and 'crit' still constitute part of the language in contemporary design studios along with practices like costume parties and studio life apart from design training.[186] The same culture also influences the practices of long, grueling work hours still present in design education today, and which the 2002 AIAS report on studio culture denounced. The report's critique of excessive workloads, unhealthy competition, and normalization of overwork in design studios, confirms their persistence over time.[187]

Nonetheless, some of these school settings also differed from contemporary design studios. While early American ateliers, like those at the École, operated independently from universities, they gradually became part of school programs and were physically integrated into school buildings with dedicated spaces.[188] Likewise, atelier-like training practices, which

[182] Brain, "Discipline & Style," 812.
[183] Brain, "Discipline & Style," 812.
[184] Anthony, "Studio Culture and Student Life," 397.
[185] Alofsin, *Struggle for Modernism*, 28–30.
[186] Anthony, "Studio Culture and Student Life," 397.No Reference
[187] Koch et al., *Redesign of Studio Culture*, 3–6.
[188] Anthony, "Studio Culture and Student Life," 397.

concerned mainly drawing and drafting, gradually included other forms of design training, like three-dimensional model making,[189] and hands-on shop work (as discussed in Chapter 5).

3.5 An early studio culture

The exploration of artists' education in nineteenth century Beaux-Arts educational model reveals characteristics distinctive of an early studio culture. The analysis of existing histories about the École des Beaux-Arts highlights similar features: their representations of artists' training at the École help identify shared cultural elements that developed around ateliers and among students. For example, there needed to be precise requirements for training settings—the physical spaces where the main training took place—which operated independently from the rest of school facilities. This configuration of spaces drew much influence from that of early Renaissance academies, which counterpoised individual training at masters' workshops with shared classes and lectures at the academy. Just like early academies of art, school settings worked for the students as exemplary places, providing inspirations and references to both copy and learn from.

Such settings paired with training practices that were linked to drawing competitions, and which persisted amid industrialization, technological change, and the emergence of new construction materials. These practices extended beyond mere training-by-drawing including a complex structure of social rituals, and shared jargon, which merged into student daily life routines. As a whole, student's life inside and outside the atelier abided by a culture of elitism and distinction that reflected—and fostered—the socio-economic conditions of artists' architects outside the school. This approach to architecture and design education, in turn, remained a peculiar characteristic of Beaux-Arts artist education also outside the Parisian École.

At the end of the nineteenth century, new approaches to art education began challenging the Beaux-Arts tradition in both architectural training and its culture. As historian Siegfried Giedion noted, this shift was particularly evident in the disciplines and professions of architecture and engineering, which more than others had to respond to both industrial and technological

[189] See for instance, Joan Ockman and Williamson, *Architecture School*, 100.

advancement.[190] In 1889, the year of the Eiffel Tower Exposition, architect Anatole de Baudot, a former École student, acknowledged this shift at the first International Congress of Architects in Paris, stating: "the influence of the architect declined, and the engineer, *l'homme modern par excellence*, is beginning to replace him."[191]

Meanwhile, in Britain, the rise of the Arts and Crafts movement promoted Applied Arts education which included both technical and manual instruction. The offering of technical education to apprentices and working classes had also begun to change the social background of students. The training performed in studios gradually shifted from a learning-by-copying and imitating Beaux-Arts approach to a learning-by-doing one, which involved practical training and experiments with materials other than paper. Some initiatives explored in the next chapter even sought to bridge the gap between fine arts and applied arts education, combining the study of classical art disciplines with hands-on craft work. As the following chapter will show, several traits of this early studio culture were also present in the English context, where they evolved within a broader range of disciplines and crafts beyond architecture, as well as a changing technological context.

[190] Siegfried Giedion, *Space, Time, and Architecture. The Growth of a New Tradition*, Third Edition (Harvard University Press, 1959), 212–16.

[191] Giedion, *Space, Time, and Architecture*, 214–15.

4. Training craftmanship

To think contemporary design studio education in architecture and its allied disciplines without the influence of nineteenth century Beaux-Arts model was impossible prior the COVID-19 pandemic. Because, as the previous chapter showed, the settings of atelier training, as well as the daily practices performed by students at the Parisian École were crucial in the pedagogy of becoming an architect. These practices and settings were also transplanted to contexts like the United States and continued to characterize design education and studio culture. Yet, there were other traditions of architectural and design education which emerged beside the persistence of Beaux-Arts-like artist education and integrated new and different forms of training for practitioners in the building trades such as architecture and engineering.[1]

In nineteenth-century England, reactions to industrialization and technological advancement in design education differed profoundly from that of the Parisian École des Beaux-Arts, gathering the influences of educators and practitioners such as John Ruskin and William Morris. This chapter discusses the changing context of design education in England that characterized the second half of the nineteenth century, analyzing similarities and differences with the École's model. Its focus is on the integration of practice-based training and manual instruction within English institutional frameworks. While a system of apprenticeship and pupilage training remained the main way to access the profession and jobs in the building trades, there had been an increasing offer of training classes and programs from schools and educational institutions.[2]

[1] Stevens, *Favored Circle*, 174–78.

[2] Barrington, *Development of the Architectural Profession.*, 47–53; *The Record of Technical and Secondary Education. A Quarterly Journal of the Progress Made by County Councils and Other Local Authorities in the*

The goal of this chapter is to analyze the settings and practices used to train new practitioners in disciplines such as architecture, engineering, and crafts and trade industries in the second half of the nineteenth century in England. The analysis explores continuities and departures from the École des Beaux Arts model and seeks to understand how these developments also contributed to shaping how studio culture is understood and discussed today. The chapter is divided in four parts (Figure 29), focusing on various configurations for the training of artists and craftsmen practitioners in the building trades in England.

The first part of this chapter (4.1) analyses architects' training practices in nineteenth century England. It considers the practices which characterized the Pupilage system, based on office training, amid the institutionalization of the architectural profession initiated by the Royal Institute of British Architects (RIBA). Focusing on the Architectural Association's (AA) curriculum and its studios settings, it begins by analyzing the progressive shift from architects' apprenticeship and pupilage to an institutionalized system of evening education closer to the French atelier's system and emphasizing collaborative drafting and design under master supervision.

The second part of the chapter (4.2) then shifts its focus to technical schools, considering the context of transformation, following the Technical Instruction Acts, which allowed schools to both expand and advance their facilities and educational offerings with the latest technologies. While exploring how new technological advancements and technical education settings influenced the quality of training, it also reflects on how this widened the access to students from diverse social backgrounds. The introduction of electric lighting in schools, for example, made possible the organization of evening classes to accommodate time schedules of workers, beside day classes for other students.

The third part of the chapter (4.3) compares the vocational focus of technical schools with schools of arts and crafts and those of applied arts. It takes into consideration the attempt to provide students with a sole training path integrating all crafts, using the London Central School of Arts and Crafts as an example for the analysis. In comparison with technical schools and the École des Beaux Arts, the section examines similarities in the

Administration of the Technical Instruction Acts., I (Macmillan and Co., 1891), 2, https://hdl.handle.net/2027/mdp.39015065413232.

arrangement of their settings, and differences in the types of training practices for preparing students in one of the industrial and design trades.

The conclusion of the chapter (4.4) highlights common aspects of training settings and practices that characterized various design disciplines, and that continued to define contemporary design education.

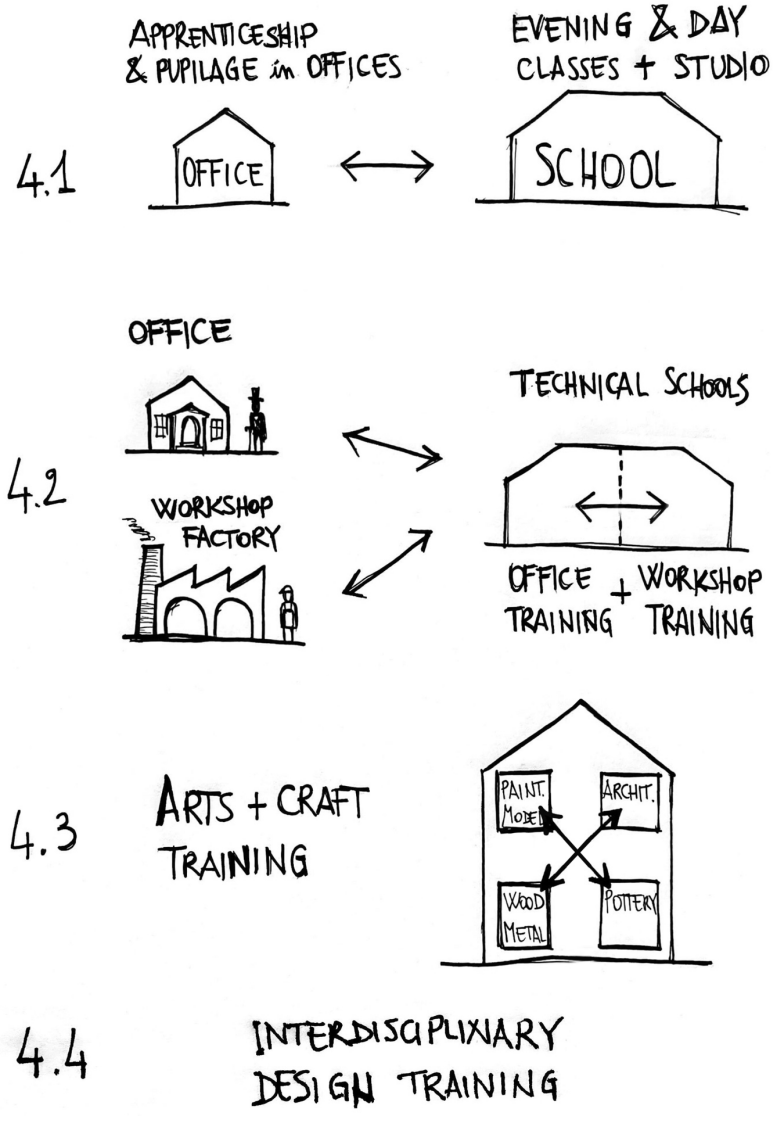

Figure 29. Schematic overview and organization of the chapter, (double-headed arrows mean bi-directional communication and/or relationship). (Drawing by author.)

4.1 From office pupilage to shared studio training.

If French *élèves* exemplified those who competed for the *Prix de Rome* for the glory of their atelier, the average representation of the English boy aspiring to be architect was more akin to Martin Chuzzlewit, the fictional character from Charles Dickens's 1843-44 novel. His adventures recounted to English contemporaries what architecture training could look like for a twenty-one-year-old English gentleman.[3] Dicken's view of architecture was of a profession tainted by ego, greed, and superficiality, where social status and appearance mattered more than skills and integrity.[4] Martin Chuzzlewit, a young apprentice from a wealthy middle-class family, saw architecture as a shortcut to wealth and status rather than a profession requiring dedication.

Like Martin, aspiring architects in mid-nineteenth century England trained under a master practitioner, learning on the job, and spending several years as pupils or apprentices in an architect's office. The key difference was that pupils paid a fee (a "premium") for their training, while apprentices received instruction in exchange for labor,[5] making the profession accessible to the working class.[6]

However, during the second half of the nineteenth century the settings of architectural education progressively changed. While apprenticeship still provided offices with labor, pupils could enhance their knowledge by attending evening classes and courses. With the introduction of knowledge requirements and compulsory exams for gaining professional membership, institutions like Architectural Associations began offering structured programs that combined theoretical classes with practical training in shared studio spaces. The following subchapter explores this change of settings in pupils training.

Pupilage as office self-training.

Training at the office meant learning from the direct experience of a master practitioner inside their working environment. A 1773 pamphlet titled *An*

[3] Crinson and Lubbock, *Architecture: Art or Profession? Three Hundred Years of Architectural Education in Britain*, 45-; Henrietta Miranda Startup, "Institutional Control of Architectural Education and Registration. 1834-1960" (Greenwich, University of Greenwich, 1984), 4.

[4] Jacqueline Banerjee, "Seth Pecksniff, Architect," The Victorian Web Literature, History, & Culture in the Age of Victoria, December 2, 2018, https://victorianweb.org/authors/dickens/chuzzlewit/arch.html.

[5] Barrington, *Development of the Architectural Profession.*, 48.

[6] Barrington, *Development of the Architectural Profession.*, 48–53.

Essay on the Qualifications and Duties of an Architect, &C. suggested how this training might look.[7] The approach was similar to the classical, drawing-focused education at the École des Beaux-Arts in Paris, and earlier art academies since the Renaissance. Early on, the master helped the apprentice in developing geometry, math and drawing skills, and then continue with more specialized training, teaching how to design and draw plans, sections, elevations, and perspective, alongside subjects like mechanics, and hydraulics.[8] A knowledge of French would also become useful when studying abroad.[9] Like the winners of the Prix de Rome, who went to Rome to complete their training, the final stage of training had to be a study trip to Southern Europe where apprentices would study and learn from ancient architecture in France and in Italy.[10]

Completing training abroad echoed the tradition of medieval artists. After their apprenticeship, journeymen would leave their guilds and work abroad to refine their skills before establishing their own practice.[11] However, a major difference persisted between these types of training. While medieval journeymen gained practical experience by working, English pupils, like École students, focused solely on theoretical design, learning through observation and drawing. As a result, by the end of their training, they were still "amazingly deficient," lacking practical knowledge of materials, tools, and construction techniques.[12]

Decades later, Dickens highlighted the prevailing focus on drawing of pupils' training in *Martin Chuzzlewit*. As described in his adventures, Martin spent most of his time in "making elevations of Salisbury Cathedral from every possible point of sight; and in constructing in the air a vast quantity of Castles, Houses of Parliament, and other Public Buildings"—none of which would ever be built outside of paper.[13]

Nonetheless, Dickens's satirical take on Martin's training contrasted sharply with the role of the master as portrayed in the earlier pamphlet. While

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[7] *An Essay on the Qualifications and Duties of an Architect, &c. with Some Useful Hints for the Young Architect or Surveyor.* (London, 1773), 13–14; and as cited and discussed in Barrington, *The Development of the Architectural Profession in Britain*, 48–50 the authorship of the pamphlet may be attributed to architect George Dance the Younger (see note 44, p. 53).

[8] *Essay on the Qualifications and Duties of an Architect*, 13–14.

[9] *Essay on the Qualifications and Duties of an Architect*, 14.

[10] *Essay on the Qualifications and Duties of an Architect*, 14–15.

[11] Kostof, *Architect*, 80.

[12] *Essay on the Qualifications and Duties of an Architect*, 15–16; and as discussed in Barrington, *Development of the Architectural Profession.*, 49–50.

[13] Charles Dickens, *The Life and Adventures of Martin Chuzzlewit* (London, 1844), chap. 2.

the latter highlighted the active role of masters in the education, which implied being in close contact with their pupils,[14] Dickens underlined the "spurious morality" of masters like Martin's—Mr. Pecksniff—who were not committed to the training of their pupils.[15] Instead of dedicating time to Martin, Mr. Pecksniff just "turned him loose in a spacious room…in the company of certain drawing-boards, parallel rulers, very stiff-legged compasses, and two, or perhaps three, other young gentlemen."[16]

This lack of attention to Martin's training seemed to be in line with that of other—real—pupils' training. Like Martin's, the experience of pupils varied depending on their masters' skills as practitioners and, more importantly, their willingness to teach. Architect George Wightwick's memoirs, recalling his apprenticeship under Mr. Edward Lapidge in late 1810s London,[17] offer a glimpse into the shortcomings of his office training,

> No instructions, not even to the course of my artist-study, were ever given; while the miscellaneous and unsystematized character of the mere office business left me uninformed as to the introductory knowledge necessary to its full apprehension. I expected to find a tutor; I found only an employer…I found, in short, that I had paid my premium for the opportunity of self-instruction – for the advantage of the 'run of the office' – for the privilege of serving my master and picking up such information as might lie in my way.[18]

These accounts reveal a system where training often bordered on exploitation. Rather than serving as active instructors, masters like Mr. Pecksniff were primarily concerned with collecting premiums from their pupils: his main "genius lay in ensnaring parents and guardians, and pocketing premiums."[19] Or, in other cases, they were only using apprentices for running their own business without corresponding a remuneration. One apprentice,

[14] *Essay on the Qualifications and Duties of an Architect*, 13–14.

[15] Banerjee, "Seth Pecksniff, Architect."

[16] Dickens, *Martin Chuzzlewit*, chap. 2.

[17] Thomas Henry Wyatt, "Opening Address by the President," *Papers Read at the Royal Institute of British Architects*, 1873, 11.

[18] From Andrew Saint, *The Image of the Architect* (Yale University Press, 1983); As cited in Startup, "Institutional Control," 3.

[19] Dickens, *Martin Chuzzlewit*, chap. 2.

Edward Arthur Heffer, recounted in his diary how his master, Mr. Edwards, wanted him to work at the office for four years without a salary.[20]

Despite these flaws, pupilage and apprenticeship remained the primary route into architecture and its related disciplines until the late 19th century. In 1894, former pupils recalled their training before modern duplication methods like typewriters, photolithography, and manifold devices made copying drawings easier and quicker.[21] Copying by tracing drawings was one of their most time-consuming tasks, as multiple copies of the same design project were needed.[22]

Beyond hand-tracing, formal instruction was limited, and pupils largely relied on self-training. Much of their learning came from occasional insights gained during office work and access to their master's book collection, which usually included entries from the orders in architecture like Vignola's, and handbooks on carpentry and construction, like Tredgold's *Carpentry*.[23]

Design classes, and pupils' training outside the office.

While mid-nineteenth-century pupils and apprentices could experience their training as a form of exploitation, in the best cases, they could supplement their education outside the office. They could attend classes at the Royal Academy of Arts in London or join Architectural Associations and Clubs in the other major cities.[24] Among these, the Architectural Association (AA), founded in London in 1847, provided "struggling architectural assistants and pupils" with formal education to complement their apprenticeship training in offices.[25]

Since office work occupied most of the day, pupils could only study in the evenings or on days off. In 1852,[26] Edward Heffer documented his daily routine while working under Mr. Edwards, who had recently opened his office in London.[27] His working hours— from 9:30 a.m. to 12:00 p.m. and

[20] Barrington, *Development of the Architectural Profession.*, 92 (footnote number 14).

[21] From Edward Gunn's contributions to The Architect and Building News (1942), as cited in Vale and Vale, "Craft Tradition," 351.

[22] From Edward Gunn's contributions to The Architect and Building News (1942), as cited in Vale and Vale, "Craft Tradition," 351.

[23] From Edward Gunn's contributions to The Architect and Building News (1942), as cited in Vale and Vale, "Craft Tradition," 351.

[24] Crinson and Lubbock, *Architecture: Art or Profession?*, 47.

[25] Startup, "Institutional Control," 12–14.

[26] One year after the inauguration of the Great Exhibition held in Hyde Park London in 1851.

[27] The entire passage from Heffer's diary is reported as a footnote in Barrington, *The Development of the Architectural Profession in Britain*, 92.

from 1:30 p.m. to 4:00 p.m.—left little time for additional study.[28] Despite these constraints, dedicated pupils like Heffer pursued further training, often focusing on design drawing techniques. While working for Mr Edwards, Heffer attended at least three evening classes: a sepia class under Mr. Archer at Somerset House,[29] an Elementary Design Class, and an Architectural Class at Marlborough House under Mr. C. I. Richardson, which cost three shillings per month.[30]

But pupils' training also relied on "self-training and self-reliance."[31] Learning through observation was the most affordable method, requiring only paper and pencil. Heffer used to sketch from existing buildings.[32] And since sketching did not require precision tools like rulers or compasses, it helped pupils develop their sense of proportion. Another exercise was drawing from existing architectural drawings, which helped pupils refine their drafting skills. Heffer actively sought prints of buildings to practice from, often visiting the British Museum's print room to find plans of large edifices to put into perspective.[33]

From the early nineteenth century onward, professional periodicals became valuable learning resources.[34] Heffer recalled buying architectural drawings—likely from periodicals—showing small houses, roof structures, for a penny each. Magazines such as *The Builder* provided architectural plans (like that reported in Figure 30) that Heffer used to draw elevations.[35]

[28] Barrington, *The Development of the Architectural Profession in Britain*, 92.

[29] A coloring technique especially useful for architecture drawings such as rendered elevation, sections, and plans.

[30] Barrington, *The Development of the Architectural Profession in Britain*, 92.

[31] Startup, "Institutional Control," 13.

[32] Barrington, *The Development of the Architectural Profession in Britain*, 92.

[33] Barrington, *The Development of the Architectural Profession in Britain*, 92.

[34] Crinson and Lubbock, *Architecture: Art or Profession?*, 47.

[35] Barrington, *The Development of the Architectural Profession in Britain*, 92.

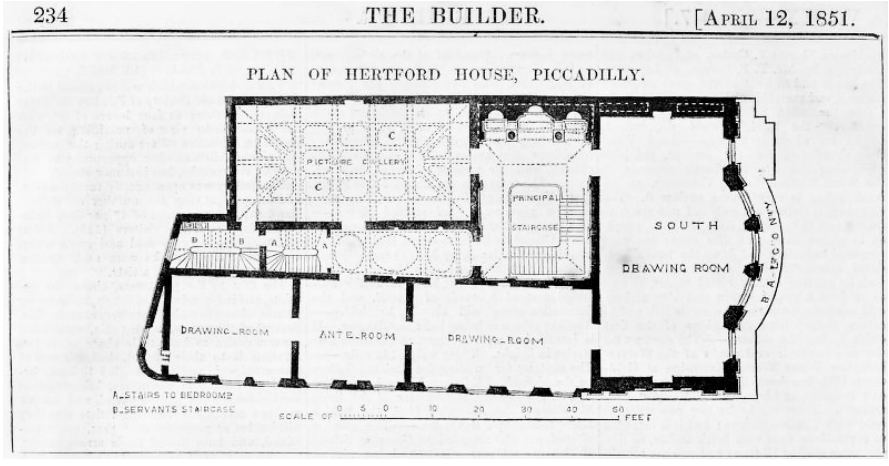

Figure 30. Example of architectural plan appearing on The Builder when apprentice Heffer was doing his training in architecture. (From: The Builder*, 1851, Vol. IX, No. 427, p. 234)*

Books, though more expensive than prints, were another key resource. Heffer managed to buy two architectural classics: one on the orders of architecture and another on cottage building for the laboring classes.[36] This combination reflected a familiar pattern in architectural education—balancing knowledge of classical architecture with practical insights into contemporary construction.[37]

Toward the end of the nineteenth century, pupils and apprentices like Heffer could find a more systematized form of architectural training outside their office. By the 1880s, architects' training was undergoing significant changes. The Royal Institute of British Architect (RIBA), which had spent the previous fifty years defining the profession, introduced formal knowledge requirements for aspiring architects.[38] In 1882, a new by-law mandated that all candidates for Associate membership pass a compulsory examination:

[36] Barrington, *The Development of the Architectural Profession in Britain*, 92.

[37] See previous section in this chapter, where among the books available in architects' offices there were Vignola's book on the orders, and Tredgold's handbook on carpentry and construction.

[38] Crinson and Lubbock, *Architecture: Art or Profession?*, 41.

> All gentlemen engaged in the study or practice of civil architecture, before presenting themselves for the election as Associates, shall, after May 1882, be required to pass an examination before their election, according to a standard to be fixed from time to time by the Council.[39]

While pupilage remained the primary form of training, by the late 1880s, students had to complete a three-step examination process to qualify for RIBA membership.[40]

However, these exams mainly served to standardize existing training rather than introduce new methods of learning. The first step, the Preliminary Examination, assessed candidate's readiness to enter an architect's office.[41] It tested proficiency in arithmetic, algebra, geometry, French, the Continental metric system, and both geometrical and free hand drawing—requirements similar to those outlined in the 1773 pamphlet about a century earlier. Successful candidates became "Probationers," and, while gaining experience as pupils, at an architect's office, continued preparing for the Intermediate Examination, following the program issued by the RIBA Kalendar (*sic*).[42]

The effort to standardize pupils' training required them to use specific tools. During their preparation for the Intermediate Examination, pupils had to keep a written and illustrated record of their education in a specific Testimony of Study.[43] The RIBA Kalendar (*sic*) described it as a "large quarto" notebook (approximately 24 cm wide and 30,5 cm high), which had to be carefully written and illustrated with detailed sketches (Figure 31).[44]

The Testimony of Study served as the primary record of a candidate's knowledge, ideas, and progress. It was meant to be used continuously and considered "the inseparable companion of the Probationer wherever he may go."[45] In this sense, it closely resembled sketchbooks already kept by apprentices—except that it was now a formal requirement for anyone seeking to take the examination.

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[39] As quoted in Barrington, *Development of the Architectural Profession.*, 129.

[40] Startup, "Institutional Control," 23–24.

[41] Waterhouse Alfred, "Progressive Examination," *Journal of the Royal Institute of British Architects* 1 (1894 1893): 21.

[42] Alfred, "Progressive Examination," 21.

[43] "Chronicle. The Intermediate Examination," *Journal of the Royal Institute of British Architects* 2 (95 1894): 65–66.

[44] Alfred, "Progressive Examination," 21.

[45] Alfred, "Progressive Examination," 21.

The contents of the Testimony also reflected traditional training methods. As before, architectural education was divided into classical studies—focused on the Orders of Architecture (Art Section)—and technical studies—covering building construction and contemporary architecture (Science Section).[46] Candidates had to draw architectural orders, and decorative details, drafted in plan, elevation, and section, and as freehand sketches.[47] They also had to draft technical drawings of construction elements such as timber-framed roof trusses, floors, and joinery work.[48]

Once the Testimonies of Study were approved by the Board of Examiners, candidates could proceed to the Intermediate Examination, which included written, graphic, and oral tests covering the same subjects recorded in their testimonies.[49] Those who passed became "students" and advanced to the final stage of training in preparation for the Final Examination.[50]

The Final Examination followed a similar structure. Over two-to-three years, students continued recording their progress in their Testimony of Study, refining their understanding of design, construction, and architectural practice.[51] They were required to draw the design of a new building and draw a historical structure from actual measurements.[52] Additionally, they had to demonstrate improved drawing techniques, such as skiagraphy (shading in sepia) or hatching in Indian ink.[53] At the end of this phase, students took the Final Examination, where they had to prove their competence by designing a building (or part of one) along with its details.[54]

[46] "Intermediate Examination," 66.
[47] "Intermediate Examination," 66.
[48] "Intermediate Examination," 66.
[49] "The Examinations: Session 1895-96," *Journal of the Royal Institute of British Architects* 2 (95 1894): 579.
[50] Alfred, "Progressive Examination," 22.
[51] Alfred, "Progressive Examination," 22.
[52] "Examinations," 579.
[53] "Examinations," 579.
[54] Alfred, "Progressive Examination," 22.

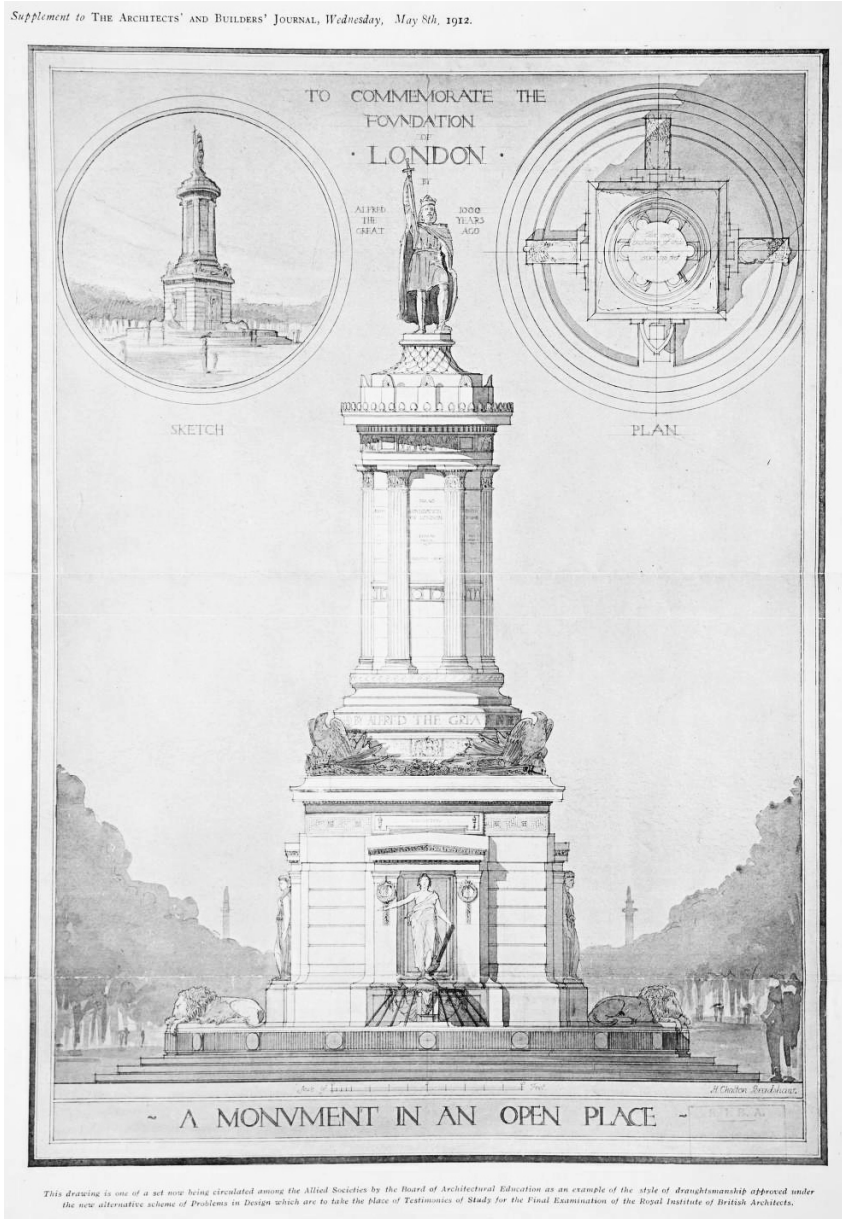

Figure 31. Drawing sample of a Testimony of Study circulated among the Allied Societies as example of the quality of draftmanship required for the Final Examination and published as a supplement to The Architects' and Builders' Journal in 1912. (From: The Architects' and Builders' Journal*, Vol. 35, No. 903, May 8th, 1912; Source: archive.org)*

Toward common studio training

This detailed examination program required students to dedicate more time to their preparation. As a result, the availability of evening classes and design prizes increased,[55] with support from institutions like RIBA's allied societies, the Royal Academy, and schools of arts.[56] In 1893, at the opening meeting of the Allied Societies in Sheffield, President Mr. Edward Mitchel Gibbs noted how students "had awoken to the necessity of preparing for such examination."[57]

These courses were meant to complement, not replace, office-based training. However, Gibbs reported that the success of these classes led an increasing number of students to leave their apprenticeships, and drop their collaborations with architects' offices, to dedicate their whole time to the exams' preparation.[58] Members of the Society valued students' decision to dedicate their whole time on their studies; but while this allowed them to study full-time—rather than squeezing in classes after a long day at the office—it also meant they missed out on hands-on experience they could get during day-hours at the office.

In response to the growing demand for formal education, the Sheffield Society of Architects introduced practical training to replace traditional pupilage. Gibbs described efforts to establish "a studio" for the pupils and daytime classes, and to appoint a qualified architect to supervise students.[59] To ensure proper guidance, the Society proposed paying this supervising architect a salary, allowing them to dedicate sufficient time to this task.[60]

Like the Sheffield Society of Architects, other schools began shaping their curricula around studio-based training for the Progressive Examination. Institutions like the Architectural Association (AA) developed full programs aligned with RIBA standards,[61] combining theoretical lectures with practical

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[55] Similarly to the École des Beaux Arts system, institutions such as the Royal Academy, and the Architectural Association used to promote competitions among the students and architecture assistants as a form of training. For example, they used to offer Prizes in the form of medals. Each medal corresponded to a specific award. Royal Academy's gold medal granted the winner with a three-year scholarship in Rome. See for example Crinson and Lubbock, *Architecture: Art or Profession?*, 35; Startup, "Institutional Control," 34–35; Barrington, *Development of the Architectural Profession.*, 158.

[56] Barrington, *Development of the Architectural Profession.*, 134; Startup, "Institutional Control," 34–35; Crinson and Lubbock, *Architecture: Art or Profession?*, 47.

[57] Gibbs Edward Mitchel, "Proceedings of Allied Societies. Sheffield: Opening Meeting.," *Journal of the Royal Institute of British Architects* 1 (1894 1893): 26.

[58] Edward Mitchel, "Proceedings of Allied Societies," 26.

[59] Edward Mitchel, "Proceedings of Allied Societies," 26.

[60] Edward Mitchel, "Proceedings of Allied Societies," 26.

[61] Frederic Farrow, "The A.A Curriculum.," *Journal of the Royal Institute of British Architects* 2 (1895 1894): 24.

training in "drawing and design in the Studio."[62] While guest lecturers occasionally contributed, studio classes were primarily led by school staff.[63]

Students' experience of these studios and classes contrasted sharply with the experience of Martin Chuzzlewit-like pupils described in the beginning of this chapter, who were left to learn on their own in an office. At the Architectural Association, students praised their instructors for their support and enthusiasm during classes.[64] Critics like Leonard Stokes, Ernest Newton, and C. F. A. Voysey earned recognition for their engaging teaching styles and their skills as critics: "Leonard Stokes was a certain draw, and always had something biting to say…Ernest Newton was the favourite visitor of many…C. F. A. Voysey was a stimulating critic."[65]

Students appreciated those instructors who combined their practical expertise with strong teaching skills. Ernest Newton, for example, was valued for his balanced critiques, which were not only oriented "to the singling out of bad points," but always attentive to show "some measure of encouragement."[66] Voysey's dry humor helped create an engaging classroom environment while supporting their learning.[67] Students' appreciations showed how their training benefitted from having expert practitioners who were also expert teachers, or to use Schön's definition, good "coaches" of the design studio.[68]

At the Architectural Association (AA), studio training was central to the curriculum. The 1895 schedule (Figure 32) highlights the emphasis on studio instruction over other classes and lectures. To accommodate students working in architects' offices, all teaching—including studio sessions—was held in the evenings, from 6:30 to 9:30 p.m., ensuring that everyone could access all education available in the program: Classes,[69] Lectures, and Studio.[70]

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[62] "Architectural Association," 651.

[63] Vale and Vale, "Craft Tradition," 351.

[64] From E. Gunn, as quoted in Vale and Vale, 351–52.

[65] From E. Gunn, as quoted in Vale and Vale, 351–52.

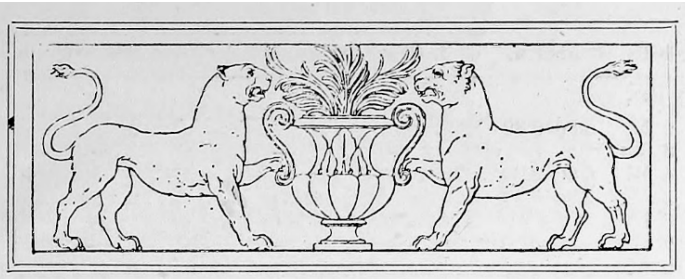
[66] From E. Gunn, as quoted in Vale and Vale, 351–52.

[67] From E. Gunn, as quoted in Vale and Vale, 351–52.

[68] Schön, *Design Studio*, 6-.

[69] As pointed out by Lecturer at the Architectural Association Frederic Farrow, it seems like Lectures and Classes were intended as the same type of tuition, where "[Lectures] include Classes". See Farrow, "A.A Curriculum," 24.

[70] "Architectural Association," 651.



ARCHITECTURAL EDUCATION.

THE CURRICULUM
OF THE ARCHITECTURAL ASSOCIATION, LONDON.

First year: for R.I.B.A. PROBATIONERS registered in March 1895 and previous years.

A.A. Division I.

Date	Hours P.M.	Lectures, Classes, &c.	Masters
OCT. 1895			
1 Tu	7.30	Elementary Cl. of Design, Preliminary Meeting	Special Visitors
2 W	—	—	—
3 Th	—	—	—
4 F	—	—	—
5 S	—	—	—
7 M	6.30–8.30	Greek Architecture	R. Elsey Smith
8 Tu	6.30–9.30	Studio	W. G. B. Lewis
9 W		Studio	
10 Th	6.30–8.30	Greek Architecture	R. Elsey Smith
11 F	7.30	**A.A. General Meeting**	—
12 S	—	—	—
14 M	6.30–8.30	Greek Architecture	R. Elsey Smith
15 Tu	6.30–9.30	Studio	W. G. B. Lewis
16 W		Studio	
17 Th	6.30–8.30	Greek Architecture	R. Elsey Smith
18 F	6.30–8.30	English Architecture	F. R. Farrow
19 S	—	—	—
21 M	6.30–8.30	Greek Architecture	R. Elsey Smith
22 Tu	6.30–9.30	Studio	W. G. B. Lewis
23 W		Studio	
24 Th	6.30–8.30	Roman Architecture	R. Elsey Smith
25 F	8.0	**A.A. Conversazione**	—
26 S	—	—	—
28 M	6.30–8.30	Roman Architecture	R. Elsey Smith
29 Tu	6.30–9.30	Studio	W. G. B. Lewis
	7.30	Elementary Cl. of Design	Special Visitor
30 W	6.30–9.30	Studio	W. G. B. Lewis
31 Th	6.30–8.30	Renaissance Architecture	R. Elsey Smith
NOV. 1895			

Figure 32. The Curriculum of the Architectural Association, London. Extract from the first year for R.I.B.A. Probationers, 1895. (From: Journal of the Royal Institute of British Architects*. November 1894 - October 1895, p. 671; Source: hathitrust.org)*

Like other classes, studio training became an essential part of formal preparation for the Progressive Examination. Students found valuable support in Mr. W. G. B. Lewis's studio classes, which helped them complete their Testimony of Studies.[71] Since the AA curriculum followed the structure of the RIBA Progressive Examination, students were divided into two main groups: Probationers, preparing for the Intermediate Examination, and Students, preparing for the Final Examination.[72]

But there was an important distinction between studio and other classes. While they were all types of training, studio was also referred to as a *space* for training. The description of the curriculum specified how students could make use of the studio space also during the day and outside scheduled hours (6.30 – 9:30 p.m.), and in the evenings when Mr. Lewis was not present.[73] Each of the two groups of students had its own separate studio room, but all members of the Architectural Association were welcome to use the studios whenever needed.[74]

The settings of AA studios looked quite similar to those of French ateliers at the École, and even more recent design studios. Like the Parisian ateliers, AA studios were open daily and supervised by a master, though the master—like the *patron d'atelier*—visited only a few times per week. This setup allowed students to use the studio freely outside scheduled classes (see Chapter 3).

The 1895 AA Curriculum emphasized practical training over other types of instruction. Students spent over sixty evenings in studio training, compared to around forty for all lectures and classes in all the other subjects combined.[75] The importance of studio instruction was also reflected in how it appeared in the program timetables—"STUDIO" was written in capital letters, making it stand out from other subjects.

The relevance of studio instruction was also noticeable in terms of costs. Students could decide to enroll in individual classes, and the fee structure

[71] Vale and Vale, "Craft Tradition," 352.

[72] Farrow, "A.A Curriculum."

[73] "Architectural Association," 651.

[74] "Architectural Association," 651.

[75] "Architectural Education. The Curriculum of the Architecutral Association, London.," *Journal of the Royal Institute of British Architects* 2 (1895 1894): 671–75.

showed that studio training was the most expensive, accounting for two-thirds of the total two-year course fees (Figure 33).[76]

Fees for the Two Years' Course (exclusive of the A.A. annual subscription).

FIRST YEAR.

	£	s.	d.
Studio and the Advanced Class of Design (71 evenings)	5	5	0
History of Architecture, with the Characteristic Architectural Features, Mouldings, and Ornament (14 lectures and classes)	1	7	6
Materials: their nature and application (10 lectures and classes)		12	6
Construction (10 lectures and classes)		12	6
Hygiene: Drainage and Water Supply (6 lectures and classes)		7	6
Specifications and Estimates (4 lectures and classes)		7	6
Professional Practice, including Legislative Enactments relating to Building Contracts (4 lectures and classes)		7	6
	£9	0	0

SECOND YEAR.

Studio and Advanced Class of Design	5	5	0
Special History Subjects (6 lectures and classes).		10	6
Stresses and Strains (4 lectures and classes)		7	6
Hygiene: Materials and Construction, Ventilation, Lighting, and Heating (6 lectures and classes)		12	0
	£6	15	0

Total—Two Years' Course, £15. 15*s*.

Figure 33. Student Fees for the Annual Course Subscription to the Architectural Association Curriculum divided per courses. (From: Journal of the Royal Institute of British Architects*, November 1894 - October 1895, p. 675; Source: hathitrust.org)*

Unlike traditional office training, the studio-based curriculum provided a more structured learning experience. Under the guidance of Mr. Lewis, the studio functioned as a dedicated space for practicing drawing and design in architecture.[77] Unlike office training, where students were scattered across different firms, AA studios could foster a collaborative learning environment, allowing students to benefit from a shared, collegial setting.

By the late 19th century, several schools—including the Sheffield Society and the AA—offered studio-based training into their curricula to help

[76] It is worth notice how the purchasing power in 1890s shows that £15.5s roughly correspond to 47 days wages of a skilled tradesman. See for example, "Currency Converter: 1270–2017," The National Archives, March 20, 2024, https://www.nationalarchives.gov.uk/currency-converter/#currency-result.

[77] "Architectural Association," 651.

students prepare for the RIBA Progressive Examination. However, some schools offered broader training programs that extended beyond exam preparation, with their approaches and settings varying based on the institution.[78]

4.2 Settings for a changing social class of students

Toward the end of the 19th century in England, pupils could find an increasing variety of schools providing formal training in architecture, or in one of the other building trades. In 1889 and 1891, the Technical Instruction Acts provided investments through local taxation to support the development of technical schools and Colleges of Science.[79] Known as the "whisky money,"[80] grants were allocated in London, and other cities, for developing schools' facilities and their equipment, providing teachers' salaries, as well as granting scholarships for qualifying students.[81]

These changes eased social barriers in education, allowing lower-class pupils and workers access to formal instruction and training. While apprenticeship remained the primary form of training, these years saw a shift in education with the expansion of secondary education, trade instruction, and the advancements in science, technology, and vocational studies at universities.[82]

Technical schools were meant to provide future practitioners with a full training including both theoretical and applied knowledge in one of the trade industries. As the 1889 Act specified, technical instruction concerned "instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries or employments."[83] As well, they provided students with "manual instruction," especially oriented in applying technical knowledge to the use of tools and materials, such as clay and wood, in workshops and laboratories.[84]

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[78] Crinson and Lubbock, *Architecture: Art or Profession?*, 66.

[79] *The American Architect and Building News*, "Letter from London," 65.

[80] Michael Argles, "English Education for Technology and Science: The Formative Years, 1880-1902," *History of Education Quarterly* 2, no. 3 (1962): 185, https://doi.org/10.2307/367098.

[81] *The American Architect and Building News*, "Letter from London," 65.

[82] Argles, "English Education," 189.

[83] Technical Instruction Act 1889 (1889), § 8, https://www.education-uk.org/documents/acts/1889-technical-instruction-act.html.

[84] Technical Instruction Act 1889, § 8.

Although they were not meant to substitute apprenticeship in offices, workshops, or factories,[85] technical schools progressively started to undermine this well-established training system. In 1909, twenty years after the publication of the Technical Instruction Act, Arts and Crafts architect Robert Weir Schultz wrote how the training offered by these schools started to become students' preferred alternative to pupilage and apprenticeship: "the well-equipped school, warm, well-lighted, and with lively, sympathetic companionship, has many attractions for the boy who is a serious student, and whose only alternative is perhaps a book in a cold attic ; or the street."[86] Shultz's acknowledged how the offer of well-advanced school settings "splendidly fitted up with all the latest tools and machinery" facilitated students' training in terms of space and equipment, as "the young would-be craftsman finds everything ready to his hand, and starts to learn his or her work under, what look to be, most favourable circumstances."[87]

The following section explores how new technological advancements and technical education funding influenced the quality of training while widening access to students from diverse social backgrounds.

Improved settings for technical training

Pupils who enrolled in technical schools at the end of the 1880s received both technical and manual instruction. While the 1889 Act specified that education "shall not include teaching the practice of any trade or industry or employment,"[88] the settings where students performed such training most often resembled their respective equivalents in practice. In some cases, classrooms were even called "offices" or "shops."[89] For instance, Yorkshire College in Leeds, Sheffield Technical School, and Durham college of Science, all had dedicated "drawing offices" for training students in drafting (Figure 35, Figure 36, and Figure 37).[90]

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[85] *Record of Technical and Secondary Education*, I, 2.

[86] Davison, *The Arts Connected with Building. Lectures on Craftsmanship and Design Delivered at Carpenters Hall London Wall for the Worshipful Company of Carpenters.*, 6–7. Schultz's reference to the 'cold attic' was probably an implicit refence to pupilage training in offices.

[87] Davison, *Arts Connected with Building*, 5–6.

[88] Technical Instruction Act 1889.

[89] See for example, *The Record of Technical and Secondary Education. A Quarterly Journal of the Progress Made by County Councils and Other Local Authorities in the Administration of the Technical Instruction Acts.*, V (Macmillan and Co., 1896), II, https://hdl.handle.net/2027/mdp.39015065413885.

[90] *'The Record of Technical and Secondary Education. A Quarterly Journal of the Progress Made by County Councils and Other Local Authorities in the Administration of the Technical Instruction Acts.*, IV (Macmillan

In these schools, 'drawing offices' were not only named after professional workspaces but also shared similar characteristics. They were typically located on the upper floors of buildings (Figure 34 and Figure 35). Due to their size, which could measure up to 400 square meters,[91] they could enable large groups of students working at the same time. For example, the Drawing Hall at the University College in Liverpool provided fifty drawing tables for the students (Figure 34).[92]

Like practitioners' offices and French ateliers, these rooms and their equipment indicate that drafting, particularly technical drawing, was the primary focus of training. Large tables, either isolated or arranged in long rows, provided ample flat surfaces for students to work on their sheets or rolls of paper (Figure 34). Students used the same drawing tools as their French counterparts at the École—T-squares, pencils, various rulers, and compasses—leaving little extra space on the tables. Instead of chairs, stools completed the list of props available in these rooms, allowing students to stand while drawing or sit and lean over their work (Figure 34, Figure 35).

While depicting training spaces, the pictures provided by *The Record* highlighted different aspects compared to those of the French École and the ateliers. The lithograph, along with its description,[93] portraying the Drawing Hall at University College in Liverpool, aimed at emphasizing the functionality of the space, illustrating its intended purpose. The students were all focused on their drawings, each bent on his table. Unlike photographs and sketches from the ateliers, it depicted no moments of distraction. The floor was clean, and the walls were tidy, with no sign of hanging personal belongings or bookshelves.

The presentation of schools and their classrooms reflected a process of standardization in both school design and the allocation of spaces. Photographs, such as those portraying the Engineering Drawing Offices at Yorkshire College in Leeds and at Durham College of Science, depicted empty spaces, emphasizing both the order and the potential of their facilities (Figure 35 and Figure 36). The focus of these images was on the classrooms' equipment and the overall quality of the spaces.

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and Co., 1895), 216, 501, https://hdl.handle.net/2027/mdp.39015065413877; *Record of Technical and Secondary Education*, V, 77.

91 *Record of Technical and Secondary Education*, V, 132.

92 *Record of Technical and Secondary Education*, V, 250.

93 *Record of Technical and Secondary Education*, V, 246–50.

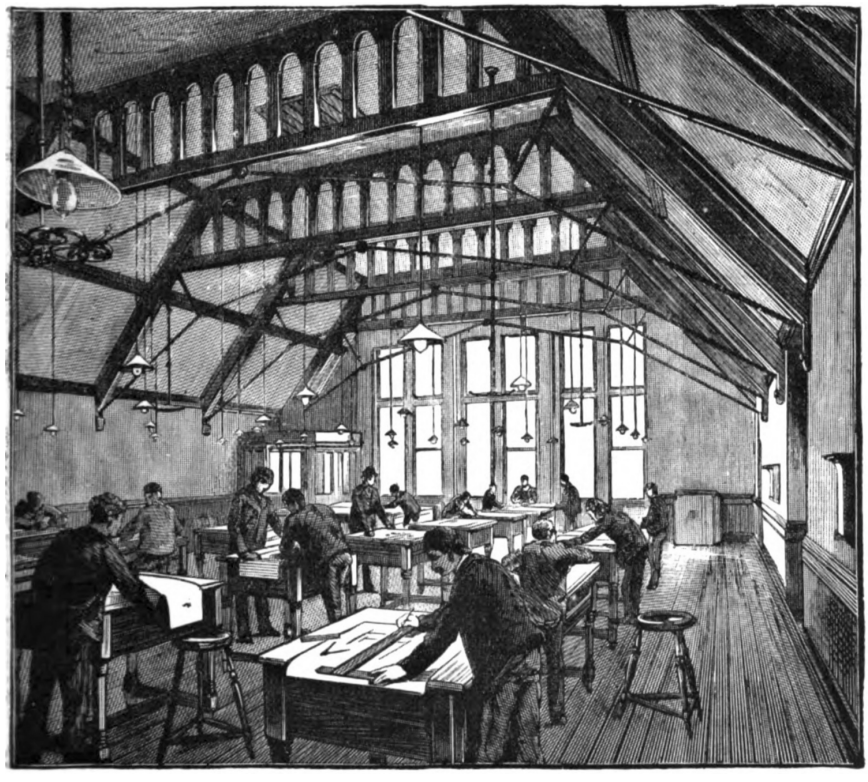

Figure 34. Drawing Hall at the Engineering Department of the University College in Liverpool. (From: The Record of Technical and Secondary Education*, vol. V, 1896. p. 179; Source: hathitrust.org)*

The depiction of schools and their classrooms resembled an advertisement aimed at attracting prospective students, suggesting a sense of competition among institutions. Schools were not only getting funds through local taxation but were also responsible for administering scholarships for incoming students.[94] Consequently, their funding was, in part, dependent on their ability to attract new students.

[94] See for example discussions in Argles, "English Education"; and also in *The Technical Instruction Act*, Volume 344 (UK Parliament, 1890), https://hansard.parliament.uk/Lords/1890-05-08/debates/92591ef6-afc6-4938-a7a9-9da998c47c54/TheTechnicalInstructionAct.

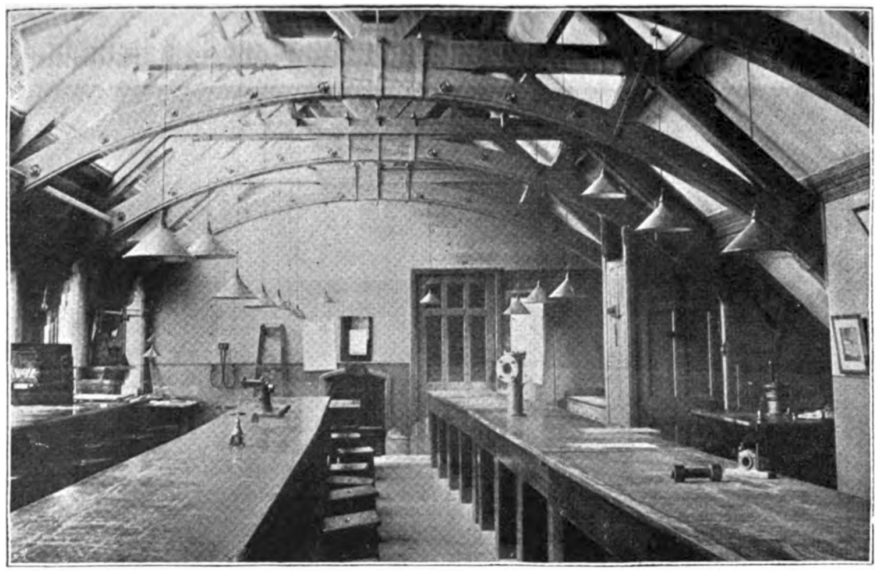

Figure 35. Engineering Drawing Office at the Yorkshire College, Leeds. (From: The Record of Technical and Secondary Education*, vol. IV, 1895. p. 501; Source: hathitrust.org)*

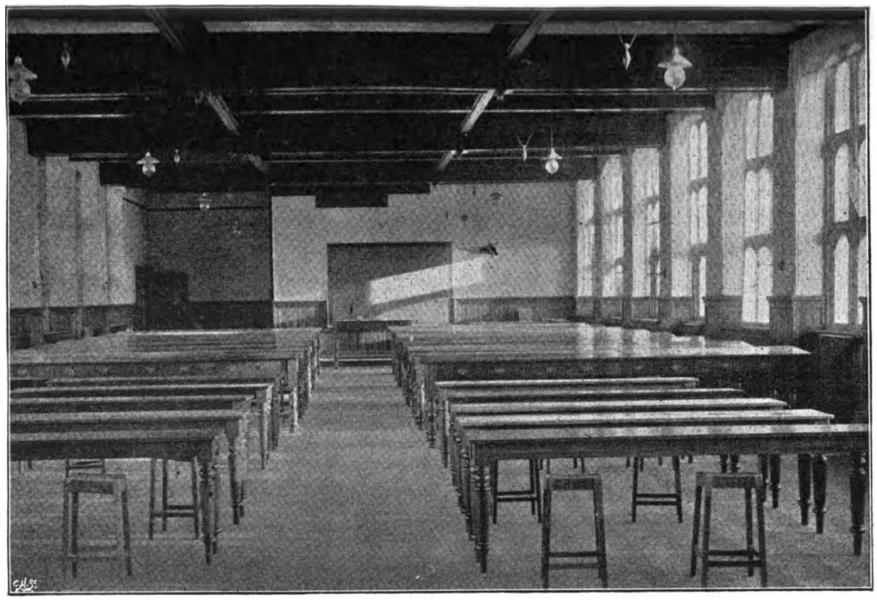

Figure 36. Engineering Drawing Office at the Durham College of Science, seat of Newcastle-On-Tyne. (From: The Record of Technical and Secondary Education*, vol. V, 1896. p. 77; Source: hathitrust.org)*

As one of the main characteristics influencing precision in the performance of drawing and teaching in general, schools reserved particular attention to lighting. Whether natural, artificial, or a combination of both, proper lighting created optimal drawing conditions throughout the day for both daytime and evening classes. To showcase their educational facilities, schools emphasized the northern orientation of their drawing rooms whenever possible. As noted in *The Record*, northern windows provided consistent, even light throughout the year, avoiding direct sunlight and allowing better control of shadows.[95] For example, the Art Department at Yorkshire College highlighted that "the life [drawing] room … is well lighted from the north, as is also the art studio."[96] Similarly, Liverpool College described its Engineering Department's Drawing Hall as being "lit from the north, east, and west" sides.[97] However, northern orientation was not always feasible, as seen in Figure 36, where sunlight hits the back wall of Durham College's drawing office.

Artificial lighting, particularly electricity, played an important role in evening classes and schools advertised its availability and features. Just a few years earlier, in 1881, Thomas Edison's incandescent light system had been successfully presented at the Paris Exhibition, marking the introduction of indoor electric lighting to large-scale use.[98]

In the beginning of the 1890s, colleges and technical schools in England could show the implementation of indoor lighting system to their classrooms. In drawing classrooms, electric light bulbs were positioned according to the arrangement of desks (Figure 35, Figure 36, and Figure 37). Liverpool College, for example, highlighted that its drawing hall was lit "at night by gas and electricity" and that each drawing table had "a separate electric light" (Figure 34).[99] The type of electric light became an important feature for the classroom setting. At the Yorkshire College, the Art Department specified that evening classes were equipped with arc lamps in the design studio and life room, while the art studio featured rings of incandescent lights.[100] The presentation of the Drawing Office at Sheffield Technical School highlighted

[95] See for example the respective descriptions in *The Record*.

[96] *Record of Technical and Secondary Education*, IV, 476.

[97] *Record of Technical and Secondary Education*, V, 250.

[98] Thomas P. Hughes, *Networks of Power. Electrification in Western Society, 1880-1930* (Johns Hopkins University Press, 1983), 51–52.

[99] *Record of Technical and Secondary Education*, V, 250.

[100] *Record of Technical and Secondary Education*, IV, 477.

the electric lighting system in the foreground, while the presence of students in the background seemed marginal and did not allow the reader to determine what they were doing (Figure 37).

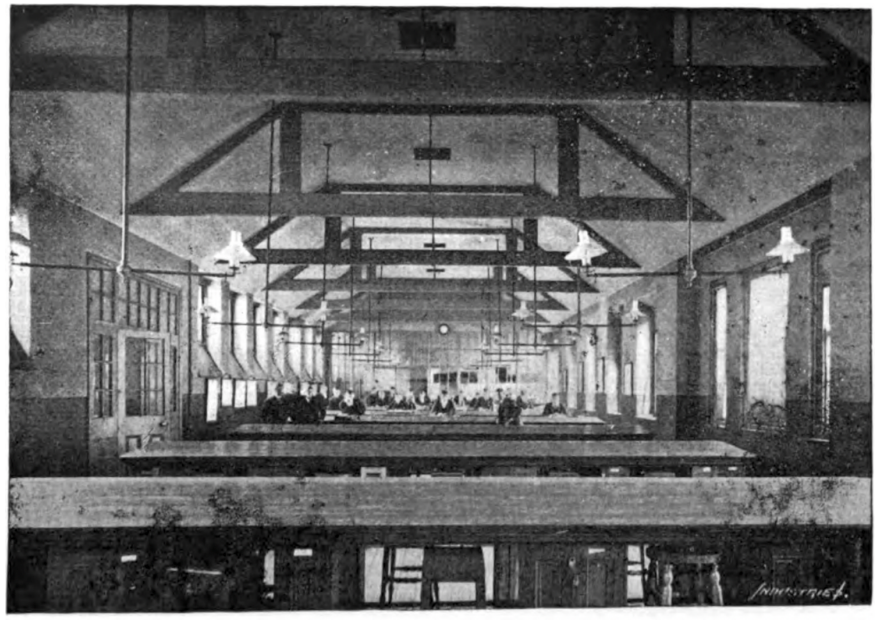

Figure 37. Drawing Office at the Sheffield Technical School, Sheffield. (From: The Record of Technical and Secondary Education*, vol. IV, 1895. p. 216; Source: hathitrust.org)*

Access to electric indoor lighting allowed schools to expand their course offering into the evening while ensuring well-lit workspaces. Only a few years later, architect R. W. Schultz noted that school training in London had been arranged into three distinct time slots: 1) the day school system for those "picked boys and girls…who have gained County Council Scholarships"; 2) A system for those already employed in a trade, and who "by arrangement with the employer…are allowed to leave earlier in the afternoon…and put in some time at school"; 3) The night school system.[101] This expanded offering could allow more students to enroll simultaneously at the same school while also increasing the diversity of social classes represented. Those workers who could attend evening classes after work could train in the same spaces of those who could afford studying without receiving a monthly wage.

[101] Davison, *Arts Connected with Building*, 6.

Settings for manual training

The key difference between training in technical schools' drawing offices and AA studios, or practitioners' offices, was the former's integration with practical training. As emphasized by the 1889 Technical Instruction Act, students had to complement technical instruction with manual training.[102]

At technical schools, manual and technical training were equally important. Schools aimed at providing students with a comprehensive understanding of their trades, covering both theoretical and practical aspects of the industrial process. Depending on their field, students integrated their training in workshops, laboratories, or similar settings. For example, engineering students at Yorkshire College in Leeds worked closely between the Drawing Office and the machine laboratories. The department's description highlighted that students' manual training and lab applications had to be supported by design exercises in the drawing department.[103] A closer look inside the engineering drawing office reveals mechanical parts left on tables, likely used as references for students' drawings (Figure 35).[104]

As emerged from *The Record*, Students dedicated up to fifty percent of their time to manual training. At the Engineering Department at University College in Liverpool, those pursuing a certificate were expected to work 25 to 30 hours per week, with 15 to 20 hours spent on lectures or problem classes, and the rest on practical work."[105] Technical instruction covered subjects like engineering, drawing and design, descriptive geometry, and surveying, while practical training took place in workshops and laboratories, where students learned pattern making, forging, molding, testing, and operating tools like vices, lathes, and engine trials (Figure 38).[106] This combination of technical and manual training gave students a comprehensive understanding of their discipline, from ideation to production. Unlike those trained solely in offices, such as Martin Chuzzlewit-like apprentices, or *élèves* at the École's ateliers, these students experienced a hands-on approach.

Moreover, this type of education exposed students to a different perception of danger and safety in their training. Those accustomed to work in an office, or studio, with just pencil and paper, had also to handle different

[102] Technical Instruction Act 1889, § 8.
[103] *Record of Technical and Secondary Education*, IV, 466–69.
[104] *Record of Technical and Secondary Education*, IV, 501.
[105] *Record of Technical and Secondary Education*, V, 250.
[106] *Record of Technical and Secondary Education*, V, 250.

tools and machinery in a factory-like setting. Tools had different weights, sounds, and required different skills. Yet, they all demanded the same precision and attention to guarantee safety. Imagining students' daily routine highlights this shift. They moved between different tasks and tools—switching from pencil and paper to wrenches, from T-squares to lathes. Students did not just draw on paper at the office, but also tested their knowledge on real materials, learning processes firsthand in the laboratories and the workshops. For example, the University College in Liverpool offered settings that combined the characteristics of engineering offices equipped with props for drawings, with the industrial feel of workshops and factories, equipped with heavy machinery and tools (Figure 34 and Figure 38).

Classroom settings like those at the Liverpool school, indirectly interacted with one another, giving a different experience than those of Fine Arts schools. Students operated these tools in turn, following the classes schedule. Except for the wood workshop, housed in a separate annex, all facilities were located in a three-story building opened in 1889, and sitting just next to the old school building.[107] With laboratories, workshops, the drawing hall, and classrooms all housed together, the sounds and smell of operating engines and machines, likely filled the entire building.

Similar combinations of technical and manual training were common in design disciplines and building trades linked to industry. At art departments like Durham College of Science, the study of design principles went alongside practical applications such as stencil-decoration, needlework, metal work, woodcarving, and pottery painting.[108] These skills attracted interest from local artistic industries, which sent their apprentices to study at that school.[109]

[107] *Record of Technical and Secondary Education*, V, 246–50.
[108] *Record of Technical and Secondary Education*, V, 134.
[109] *Record of Technical and Secondary Education*, V, 134.

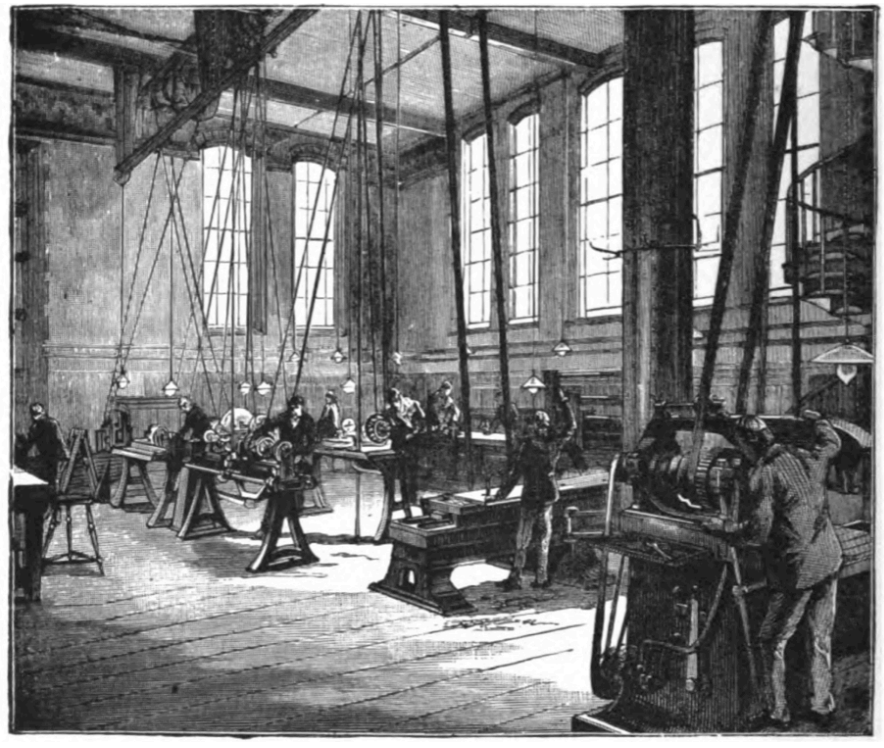

Figure 38. Main Engineering Laboratory at the Engineering Department of the University College, Liverpool (From: The Record of Technical and Secondary Education*, vol. V, 1896. p. 238; Source: hathitrust.org)*

Although technical schools differed from schools of Fine Arts schools—particularly in their vocational focus—some adopted similar settings to support manual training. Art departments at institutions like Durham College of Science or Yorkshire College offered life rooms for figure drawings (focusing on the human figure) and studios for still-life drawing.[110] Durham's general studio, approximately 40 meters long and 10 meters wide,[111] shared features with other drawing offices and classrooms. It had large skylights in the vaulted ceiling providing light from north, supplemented by incandescent light bulbs for artificial lighting (Figure 39).

[110] *Record of Technical and Secondary Education*, V, 134; *Record of Technical and Secondary Education*, IV, 476.

[111] The settings adapt to the need of pleasing students who wants to applies the principle of design to specific crafts *Record of Technical and Secondary Education*, V, 134.

Figure 39. The General Studio at the Art Department of the Durham College of Science. Newcastle on Tyne. (From: The Record of Technical and Secondary Education*, vol. V, 1896. p. 126; Source: hathitrust.org)*

Unlike drawing offices or their equivalent ateliers, which focused on drafting, the primary activity in the general studio appeared to be still-life and figure drawing. The general studio contained and displayed stuff. Collections of objects, paintings, casts of antique figures, framed floral decorations, and pieces of ornaments surrounded the space of the room. Thick drapes hung from the ceiling, not only controlling light from the windows but also serving as dividers to adapt the room as needed.

With its museum-like display of objects for students to draw by copying, the general studio resembled the Palais des Études, particularly the *cour vitrée* and its cast collections of antiques. Like those at the Palais des Études, these collections provided students with inspiration and a source for learning. However, unlike Fine Arts schools such as the École, which focused on educating elite artists, technical schools aimed to equip students with practical skills applicable to their specific disciplines.

4.3 Bridging arts and crafts

In the mid-1890s, while in most technical school students engaged in the training of their own craft only, there were initiatives where they could combine their training among various arts and crafts. Following the ideals of the Arts and Crafts Movement, such initiatives "attempted to recuperate the practices and skills that had been dissipated or destroyed by the Industrial Revolution."[112] They offered educational programs which were not aimed at fulfilling examination requirements of the respective professions.[113] On the contrary, they focused their education on Architecture, considering "building trades and handicrafts" as a whole.[114]

Among others, the School of Architecture and Applied Arts in Liverpool under Professor Frederick Moore Simpson, and the London Central School of Arts and Crafts under Architect William Richard Lethaby became two examples of this innovative change. Unlike Technical Schools and Fine Arts schools like the *École*, these examples aimed at establishing a "complete union between the different arts and crafts."[115] In some cases, like the Liverpool School, these initiatives have been addressed at various times by scholars as an "experiment," an "innovative episode in the history of architectural education."[116]

To unify the training of different arts and crafts meant that students would learn from each other's disciplines by working "side-by-side in the same studios."[117] Differently from the *École* and other schools of Fine Arts, "It is not enough that the students of the three arts of architecture, sculpture, and painting should be together; with them also must be the stone and wood carver, the designer in stained glass and in textile fabrics, the furniture designer, gold, copper, and iron smiths, and workers in other crafts."[118]

Such schools maintained their interdependence with the apprenticeship system, offering training in evening classes to those students who were

[112] Crinson and Lubbock, *Architecture: Art or Profession?*, 65.

[113] Crinson and Lubbock, *Architecture: Art or Profession?*, 66.

[114] *The American Architect and Building News*, "Letter from London," 65.

[115] "Architectural Education. University College, Liverpool. The School of Architecture and Applied Arts.," *Journal Of the Royal Institute of Brutish Architects* 2 (95 1894): 635.

[116] See for example, "Thoughts on the Teaching of Architects," 637; Christopher Crouch, *Design Culture in Liverpool. 1880–1914.* (Liverpool University Press, 2002), 50, https://archive.org/details/designcultureinl0000crou.

[117] "Architectural Education. University College, Liverpool," 635.

[118] "Architectural Education. University College, Liverpool," 635.

already employed in offices, factories, workshops.[119] But what effect would this form of training have on both educational settings and practices? The following section considers how this new form of design education worked in practice at the London Central School of Arts and Crafts in the years after its opening in 1896.

New old settings for applied arts training

Not only a fine arts school, nor just a technical school, a school of Arts and Crafts like London Central shared characteristics with both. In 1897, a year after its opening, art critic Esther Wood's review of W. R. Lethaby's new school highlighted this blend.[120] Initially designed as an evening school for working students, it also offered daytime workshops for those who wanted to make use of them.[121]

The school embraced both fine arts, such as painting and sculpture, and new technologies applied to production. This contrast was evident from the entrance hall, where visitors encountered displays of medieval and antique artifacts alongside metalwork, pottery, and electrotype reproductions of artworks.[122] Other walls featured autotype photography and Japanese printing techniques, while the modeling room housed an excellent selection of casts from the antique.[123]

The ground floor plan of the London Central School, established at Southampton Row in 1901,[124] presented settings very similar to those of the École des Beaux-Arts in Paris. Like the École's *Cour Vitrée*, the Exhibition Hall, placed at the center of the building, could serve as exemplary for the students (Figure 40). Though the objects to be showcased were not only casts from the antiques like those at the École.[125] As a place to exhibit products from the different crafts disciplines it could work as a way to make students

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[119] Quentin Hughes, "Before the Bauhaus: The Experiment at the Liverpool School of Architecture and Applied Arts," *Architectural History* 25 (1982): 106, JSTOR, https://doi.org/10.2307/1568415; Wood, "The School of Arts and Crafts: Part One.," 241.

[120] Wood, "The School of Arts and Crafts: Part One."; Esther Wood, "The School of Arts and Crafts: Part Two.," *The Architectural Review* 2 (1897): 285–92.

[121] Sylvia Backemeyer and Theresa Gronberg, eds., *W. R. Lethaby. 1857-1931. Architecture, Design and Education.* (Lund Humpries, 1984), 17, https://archive.org/details/wrlethaby18571930000unse/mode/2up.

[122] Wood, "The School of Arts and Crafts: Part One.," 242.

[123] Wood, "The School of Arts and Crafts: Part One.," 242.

[124] Backemeyer and Gronberg, *W. R. Lethaby*, 20.

[125] See for example "Photograph of Central School of Arts and Crafts: Exhibition Hall," London Picture Archive, 1944 1919, https://www.londonpicturearchive.org.uk/view-item?i=185520, https://www.londonpicturearchive.org.uk/view-item?i=185520.

"perceive the links between their own and other crafts."[126] Apart from plaster casts, the school collections included historical and technical specimens like metalwork, textiles, photographs, heraldry textbooks, botanical books and magazines, cases of butterflies, and large cartoons for stained glass.[127]

Like at Fine Arts schools, drawing was part of students' training at the London Central School of Arts and Crafts. But it was not meant as a skill to acquire from copying like an "unimaginative or timid repetition of earlier forms," rather as a way to study historical examples, to understand them, and perhaps find ways to improve them.[128]

Like technical schools, the London Central School featured specialized workshops and laboratories on each floor, dedicated to different crafts (Figure 40 and Figure 41). Following Lethaby's vision, the school could be organized into departments by craft, with each occupying a separate floor: silversmithing and metal working, bookbinding and book production, building design and decoration, cabinet work and textiles, modelling and carving.[129]

[126] Crinson and Lubbock, *Architecture: Art or Profession?*, 68.
[127] Backemeyer and Gronberg, *W. R. Lethaby*, 18–19.
[128] Backemeyer and Gronberg, *W. R. Lethaby*, 18–19.
[129] Backemeyer and Gronberg, *W. R. Lethaby*, 20.

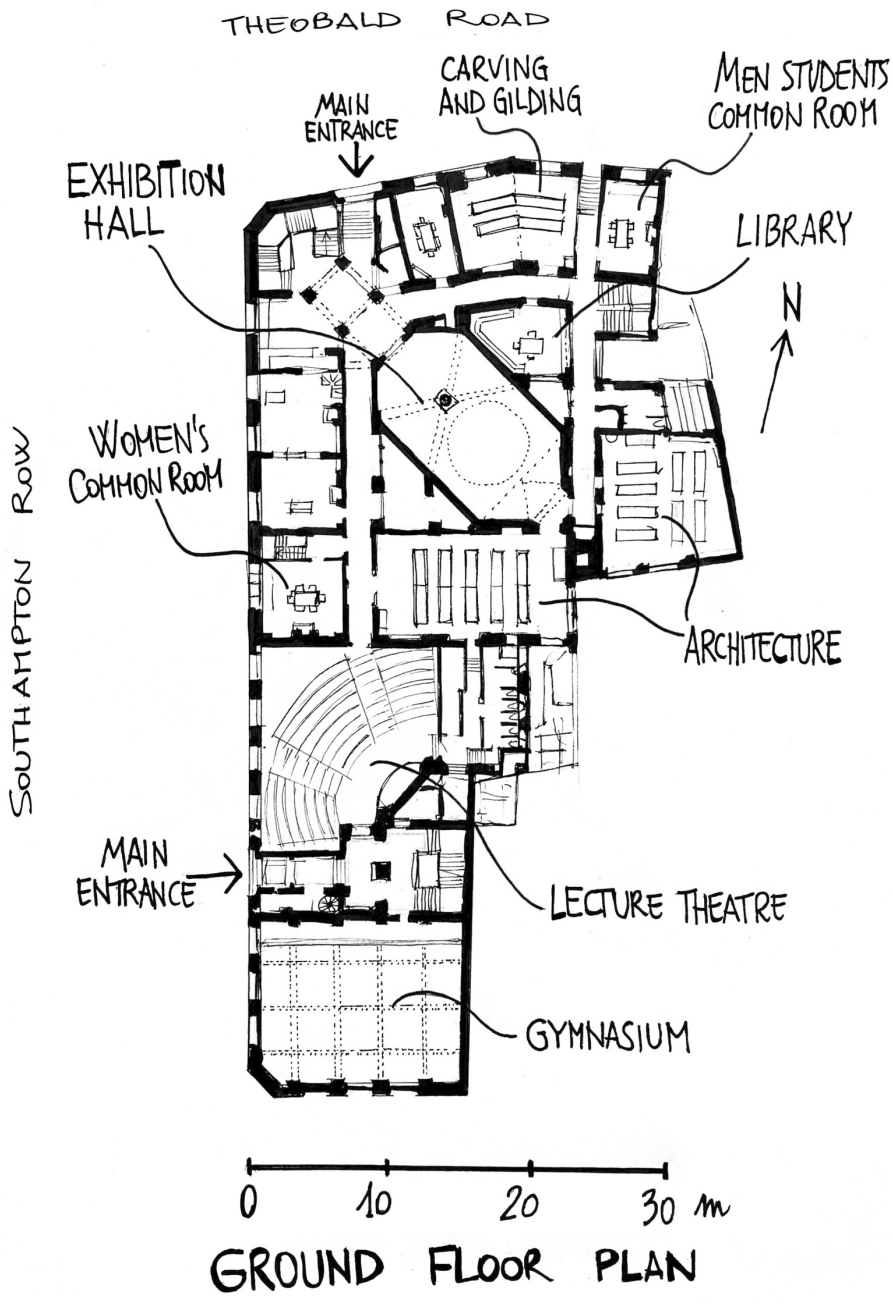

Figure 40. Ground floor plan of the London Central School of Arts and Crafts (top) and London Day Training College Southampton Row (bottom). (Drawing by author.)

A wood-carved artwork by Herry Perry, a student at the school in the 1920s, captured the dynamic training environment inside (Figure 41). The mix of hands-on craftwork, diverse tools, and machinery evokes the noises and smells characteristic of technical schools. A careful look at the portrayed classes of architecture (bottom left), life drawing and sculpture (top left), do not reveal differences from those carried out at fine arts schools. Architecture students bent on their drawing boards with T-squares and pencil did not differ from those at technical schools or at the École. Likewise, life drawing students made use of familiar tools like those used in arts schools.

However, within the broader context of the illustration, drawing seemed less central to the school's training. At Lethaby's school, student training had to "foster a proper understanding of tools, materials and function and the notion of art as service rather than as expression of genius."[130] Perry's artwork itself reflected this philosophy—not a pencil sketch but a wood carving, a technique suited for fast print reproduction.

[130] Backemeyer and Gronberg, *W. R. Lethaby*, 18.

Figure 41. Wood engraving on wove paper by Herry Perry portraying the London Central School of Arts and Craft (ca. 1920s). (From: University of the Arts London, Central Saint Martin Museum and Study Collection.)

Certain aspects of the school's layout reflected the social changes that allowed both men and women to study under the same roof. Still, at the turn of the twentieth century, apart from having separate restrooms, there was a formal social distinction between men and women students. Common rooms for informal social gatherings were divided by gender indicating a formal separation among men and women outside curricular activities. These common rooms, positioned at opposite corners of the building, reflected an effort to balance progressive change with societal expectations, ensuring the school remained respectable to more conservative views (Figure 40).

Despite claims that all crafts were "open to men and women equally," some limitations remained—most notably, the life class was restricted to men.[131] Perry's 1920s illustration captured the lingering inequalities from her own perspective at the time when she was a student.[132] A careful look allows the reader to unearth several differences in the training of male and female students. The count of characters in the picture reveals almost a one-to-one male female ratio, but they reveal an uneven distribution according to the various craft disciplines.

While classes like sculpture, furniture making, textile printing, pottery, and casting, included both male and female students, there were crafts which Perry portrayed as exclusive by gender, like weaving and costume for women, and architecture for men. In the latter, the focus on students' look suggests about their habits inside the school. Beside the director and an old man visiting the exhibition hall (bottom right in Figure 41), architecture students are the only ones wearing suits with a ties, suggesting a certain social distinction. While one is occupied drawing leant on the drafting board, the other is not engaged in any activity, but his pose talks much about their self-confidence. Standing a foot on a chair, with his hand in his pocket, he holds the T-square in a rather contemplative pose.

The central part of Perry's illustration—the staircase—represented the connection among all crafts and could symbolize students' journey through their training. Men and women moved upward together, carrying tools or materials reflecting their craft. The process appears exhausting, with students visibly bending under the strain as they climb higher. Much like in the Fine

[131] Wood, "The School of Arts and Crafts: Part One.," 241.

[132] "Herry Perry," University of the Arts London, accessed May 21, 2024, https://collections.arts.ac.uk/people/304/herry-perry;jsessionid=221D11FE8F235CF0DEC6946D62CE3593.

Arts, the image suggests that mastering any craft discipline demanded dedication and hard work.

Training in the round

Sharing training meant that students from different crafts sat side-by-side in the same classes while getting exposed to each-other's works. Contrary to Fine Arts schools like the École, at the London Central School of Arts and Crafts, the director Lethaby encouraged these types of interaction among students: "you must go upstairs and see how stained glass windows are made and books are bound and gilding done."[133] Similarly, artist Christopher Whall, instructor of the stained-glass workshop recalled about his students: "If an accomplished painter or architect comes here to learn stained glass, he must learn to 'cut' and 'lead' it as well as draw and paint for it."[134]

The description of an evening inside the modelling-room from Esther Wood gives an idea of how sharing training looked like. While a group of students were "hastily donning their big holland wrappers and arranging their blocks and models," others prepared themselves around the life-model; some students were spread in the rest of the room "copying from the cast;" one student was "fetching fresh clay" to begin work on a bas-relief, while two "young mechanics" just introduced themselves to the teacher, Mr. Roscoe Mullins, who was trying to help them find "what will bear most directly on their daily employment."[135] In another class, students were "gathered together round the tables and desks, thinking out their design or plodding steadily on at some set task, while the teacher goes round with explanation and comments."[136]

This type of training implied that the teacher could dedicate a significant amount of individual time with each student, preferring a one-on-one relationship with them. The class welcomed students from different crafts, so the instructor had to "acquaint himself closely with the personal needs and circumstances of each pupil."[137] As the teacher, Mr. Roscoe Mullins commented about his class, "such grouping together of miscellaneous

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[133] Backemeyer and Gronberg, *W. R. Lethaby*, 17.

[134] E. Thorton and S. C. Curtis, "The Central School of Arts and Crafts," *The Artist: An Illustrated Monthly Record of Arts, Crafts and Industries* XXII (1898): 125.

[135] Wood, "The School of Arts and Crafts: Part One.," 242–43.

[136] Wood, "The School of Arts and Crafts: Part One.," 242.

[137] Wood, "The School of Arts and Crafts: Part One.," 243.

students makes it necessary for me to work with the individual as much as possible, rather than treating this as a class in the ordinary way"[138]

Teaching students from different crafts required instructors to be experts of their discipline, but also good teachers able to fulfill the need of various students. Esther Wood, described the average class as including "young and middle-aged men, strong manual labourers, refined and scholarly-looking craftsmen, quiet, earnest girls, and smart little lads."[139] For this reason instructors had to adjust their teaching according to the need of the single student.

The purpose of each class was to make students familiar with and learn from using materials which did not belong to their specific crafts. Mr. Roscoe Mullins specified how each student would engage in different types of tasks for honing their skills; he pointed out how a silversmith was taking his class "to improve his knowledge of form" through modeling and life-drawing while an architect was learning from modelling pieces from the antique.[140] Similarly, at the architectural class, the teacher Mr. Halsey Ricardo would encourage his students to "join Mr. R. H. Hook's class for practical stone-working" and learn "handling of all masonic tools" for preparing blocks, as well as making moldings.[141] Developing a knowledge of each craft meant developing a knowledge of the specific material in itself, to unearth both "possibilities and limits of every substance handled."[142]

This kind of training highlighted the characteristic of an experimental environment.[143] While during the day students might be "pinned down to one kind of work day after day without the slightest variety," at the school they could try out different crafts and practices fostering a whole understanding of their discipline and a much more comprehensive idea of a creation and production process.[144] This approach urged the students to learn through a process of trial and error. The description of training inside Mr Christie's class for furniture design gives an idea of how students learned combing both drawing and other techniques:

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[138] Wood, "The School of Arts and Crafts: Part One.," 243; "The ordinary way" in this case probably meant a class of students with the same background education and level of knowledge, and with the same needs and goals.

[139] Wood, "The School of Arts and Crafts: Part One.," 241–42.

[140] Wood, "The School of Arts and Crafts: Part One.," 243.

[141] Wood, "The School of Arts and Crafts: Part One.," 244.

[142] Wood, "The School of Arts and Crafts: Part Two.," 285.

[143] E. Thorton and S. C. Curtis, "Central School," 125.

[144] Wood, "The School of Arts and Crafts: Part Two.," 285.

> The interest and value of their drawings consists in being the first attempts of untrained mechanics to commit their ideas to pen and paper. Many crude and faulty experiments must of course be made before they can rightly appreciate the value of draughtsmanship as part of the equipment for their craft, or duly adapt their design to the properties of their material, and its capacities for decorative expression.[145]

This way of training that combines both drawing and experimenting with model making, various tools, and materials resembles that of contemporary design studios. While outside the school students practiced their discipline at the working place, school training in studios and workshops allowed them to freely experiment and learn without dealing with real projects.

4.4 Toward interdisciplinary design training

The exploration of nineteenth century design education in England presents a more varied offer of settings and training practices than that of Fine Arts schools like the Parisian École. The persistence of pupilage and apprenticeship system still shows the shared common roots of design disciplines anchored in earlier Medieval traditions. At the same time, there is a progressive shift of settings toward an institutionalized system of education which emphasized collaborative training with master supervision. By the late nineteenth century, institutions like the Architectural Association (AA) started to offer architectural education combining theoretical classes with practical training in studio. In such curricula, studio-based education, emphasizing drawing, design, and collaborative learning, became central to preparing architects for their professional certification.

In the late nineteenth century, the expansion of technical schools offered formal instruction combining theoretical knowledge with hands-on manual training. Schools aimed at providing students with skills and technical knowledge to apply in their respective disciplines. While facilities mirrored their equivalent professional environments, such as drawing offices, workshops, and laboratories, this combination of settings created learning spaces that blended theoretical and practical training. The introduction of new technologies, such as indoor electric lighting, helped school to easily

[145] Wood, "The School of Arts and Crafts: Part Two.," 292.

spread their course offering between day and evening classes. This allowed a democratization of education, welcoming students from diverse social classes including daytime workers. The integration of shared collective work with material experimentation in shops and professional simulation in studios remains central to contemporary architectural and design education.

Moreover, the analysis of historical accounts and their representations reveal additional elements of the culture that developed around studios. Schools of Arts and Crafts such as London Central sought to provide students with interdisciplinary training. By promoting shared training settings where students from diverse crafts could work side-by-side, learn from each other, and engage with various materials and tools, these schools fostered a collaborative, experimental environment. Approaches like this, which fostered interdisciplinary work, hands-on experimentation that allowed mistakes without the pressure of production deadlines, and individual mentorship, became (and remain) central to contemporary design studio practices.

The separation between working places and places for training still characterize studio education today. Nonetheless, at schools like London Central, the relation between school and workplaces outside—industry—seemed to be visible only between the individual students and their respective occupations. At London Central, Lethaby "did not reject mechanization" for the training of his students, but for him handiwork remained "the typical form of human industry."[146]

About a decade later, initiatives like that of the Deutscher Werkbund and the Bauhaus school in Germany (explored in the next chapter) radically reconsidered the link between industry and design education. Two major shifts will emerge from the study of this new context. On the one hand, the ideas of play and leisure attached to educational practices coexist with an institution that provides its students with a much more controlled experience over their training. On the other, there is an increasing tendency to define design education through the personality of its instructor.

[146] Backemeyer and Gronberg, *W. R. Lethaby*, 21.

5. Total designing

The previous chapters showed how nineteenth century models of design education—Beaux Arts and Arts and Crafts, in France and England respectively—drew their influences from earlier traditions. While embedded in different social contexts, they reacted to industrial development and technological change by both resisting and integrating changes. In England, some institutions sought to unify the training of artists-craftsmen by means of workshop training in schools of arts and crafts. But prior to World War I, attempts to bring Fine and Applied Arts together with trade and industrial development had only the character of what architecture historian Quentin Hughes defined as "experiments."[1]

The aftermath of World War I raised new awareness of the need to integrate the training of artists with technological development, or to use Pevsner's words to bring the student "from the position of the artist-craftsman to that of the industrial designer."[2] The response to economic devastation, material scarcity, and need for reconstruction after the war relied on standardization, efficient industrial processes, and mass production. These conditions demanded designers capable of working with industry rather than outside it. Chapter 5 considers another experiment, that of the Bauhaus school in Dessau in the 1920s and its widespread legacy to design education programs in the second half of the twentieth century, especially in the United States. The institution is widely regarded for having influenced more than any other single institution the way settings and practices are structured in contemporary design education, as well as how studio culture is understood today.

[1] Quentin Hughes, "Before the Bauhaus."

[2] Pevsner, *Academies*, 269.

The goal of the chapter is to examine how the Bauhuas's configuration of training settings and practices combined aspects of instruction and student life with technological advancements in a new integrated model of design education. How did these settings and practices adhere to, or depart from, earlier models and traditions of design education? This analysis deepens an understanding of the historical continuity and transformation of pedagogical approaches, offering insights into how they helped shape contemporary discourse around studio culture.

The chapter is divided in four parts (Figure 42). The first part (5.1) examines the new school settings and arrangement of its facilities as they related to the rounded school curriculum. The analysis discusses the spaces as part of a "total institution," which still draw influence from previous traditions, and makes the school to work as an exemplary place for its students.

The second part (5.2) takes into consideration students' experience of their education in a "total institution." The discussion analyses how various aspects of their education, which transcended the distinction among training, working, and leisure activities, aimed at synthetizing a new form of architectural education.

The third part (5.3) follows the Bauhaus experiment after its closure under the Nazi regime in 1933, tracing the work of its former instructors and students in universities across the United States. It analyzes how the Bauhaus model shaped and merged with existing curricula, ultimately becoming a significant influence on contemporary studio culture.

The conclusion of the chapter (5.4) highlights the central role of design studios, and that of their masters, in shaping not only the pedagogical practices but also the cultural identity of design education, blending formal instruction with everyday life in ways that continue to influence contemporary studio culture.

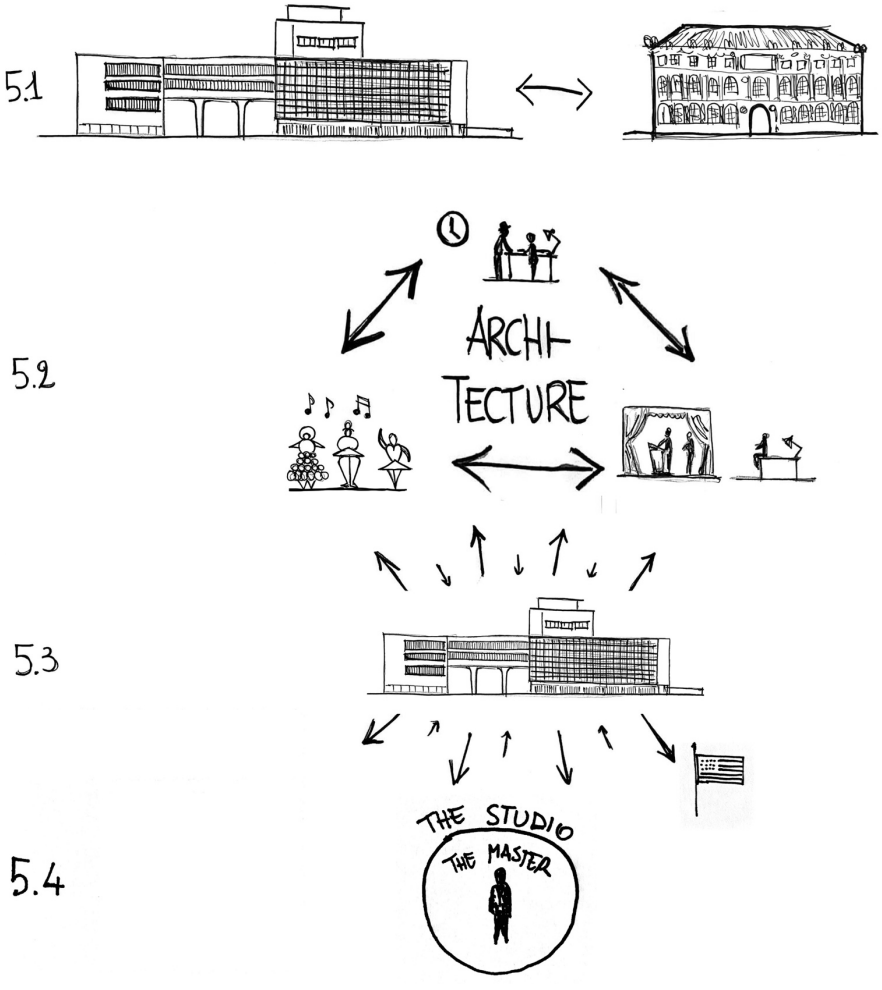

Figure 42. Schematic overview and organization of the chapter, (double-headed arrows mean bi-directional communication and/or relationship). (Drawing by author.)

5.1 Bauhaus in Dessau as an exemplary place for student training

Those who, after the First World War, had the chance to hold a copy of the new Bauhaus Manifesto and Program in their hands would first see the image of a cathedral, not that of a school. The graphic illustration in the front cover portrayed Lyonel Feininger's Cathedral of the Future, a rough woodcut print made of simple straight lines emerging from a geometric and stark landscape (Figure 43). It was not a celebration of Fine Arts. Instead, it was about merging crafts and technology, about what reproduces well, and optimizes work.[3]

Published by Water Gropius as an invitation to join his new school, the Manifesto idealized a new educational model, where the cathedral recalled the medieval way of building churches with all crafts working together in common projects.[4] As well, the name Bauhaus, recalled the medieval *Bauhütte*, the guild trades of craftsmen which organized themselves in the construction of buildings like churches.[5] For those who seven years later in 1926 pursued their studies at the Bauhaus, the new school building in Dessau symbolized Lyonel Feininger's image *Cathedral of the Future*.

Gropius's idea of the new school was to break with the long-established traditions of design education. As stated in the Manifesto, the Bauhaus promoted a new unity of the visual arts having the building as a common aim.[6] Traditions which taught arts by means of drawings had to be "adsorbed" inside workshop training, like in the Middle Ages.[7] As such, there had to be no students, nor teachers, but apprentices, journeymen, and masters participating together in the same projects.[8] These ideas recall those of William Morris, and before him John Ruskin, only a few decades earlier (see Chapter 4). The school, which first opened in Weimar in 1919 merging the School of Arts and Crafts and the Academy of Fine Arts,[9] reached its final development moving to Dessau in 1926 and becoming an "Institute of Design."[10]

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[3] Steven Zucker and Juliana Kreinik, "Lyonel Feininger, Cathedral for Program of the State Bauhaus in Weimar," Smarthistory, November 25, 2015, https://smarthistory.org/lyonel-feininger-cathedral-for-program-of-the-state-bauhaus-in-weimar/.

[4] Whitford, *Bauhaus. Masters and Students*, 32.

[5] Whitford, *Bauhaus. Masters and Students*, 32.

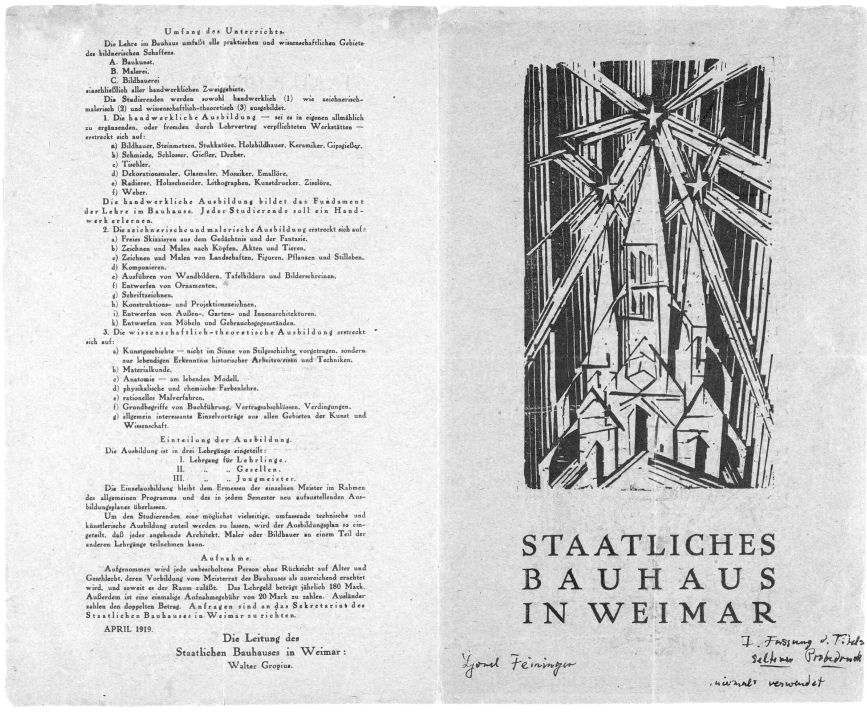
[6] Translation in English of the Manifesto could be found in Neumann, *Bauhaus and Bauhaus People*, 13–14.

[7] Neumann, *Bauhaus and Bauhaus People*, 13.

[8] Neumann, *Bauhaus and Bauhaus People*, 13.

[9] Whitford, *Bauhaus. Masters and Students*, 31.

[10] Whitford, *Bauhaus. Masters and Students*, 199.



Umfang des Unterrichts.

Die Lehre im Bauhaus umfaßt alle praktischen und wissenschaftlichen Gebiete des bildnerischen Schaffens.

A. Baukunst.
B. Malerei.
C. Bildhauerei
einschließlich aller handwerklichen Zweiggebiete.

Die Studierenden werden sowohl handwerklich (1) wie zeichnerisch-malerisch (2) und wissenschaftlich-theoretisch (3) ausgebildet.

1. Die handwerkliche Ausbildung — sei es in eigenen allmählich zu ergänzenden, oder fremden durch Lehrvertrag verpflichteten Werkstätten — erstreckt sich auf:

a) Bildhauer, Steinmetzen, Stukkateure, Holzbildhauer, Keramiker, Gipsgießer.
b) Schmiede, Schlosser, Gießer, Dreher.
c) Tischler.
d) Dekorationsmaler, Glasmaler, Mosaiker, Emailleure.
e) Radierer, Holzschneider, Lithographen, Kunstdrucker, Zinkätzer.
f) Weber.

Die handwerkliche Ausbildung bildet das Fundament der Lehre im Bauhause. Jeder Studierende soll ein Handwerk erlernen.

2. Die zeichnerische und malerische Ausbildung erstreckt sich auf:

a) Freies Skizzieren aus dem Gedächtnis und der Fantasie.
b) Zeichnen und Malen nach Köpfen, Akten und Tieren.
c) Zeichnen und Malen von Landschaften, Figuren, Pflanzen und Stillleben.
d) Komponieren.
e) Ausführen von Wandbildern, Tafelbildern und Bilderschreinen.
f) Entwerfen von Ornamenten.
g) Schriftzeichnen.
h) Konstruktions- und Projektionszeichnen.
i) Entwerfen von Außen-, Garten- und Innenarchitekturen.
k) Entwerfen von Möbeln und Gebrauchsgegenständen.

3. Die wissenschaftlich-theoretische Ausbildung erstreckt sich auf:

a) Kunstgeschichte — nicht im Sinne von Stilgeschichte vorgetragen, sondern zur lebendigen Erkenntnis historischer Arbeitsweisen und Techniken.
b) Materialkunde.
c) Anatomie — am lebenden Modell.
d) physikalische und chemische Farbenlehre.
e) rationeller Malverfahren.
f) Grundbegriffe von Buchführung, Vertragsabschlüssen, Verdingungen.
g) allgemein interessante Einzelvorträge aus allen Gebieten der Kunst und Wissenschaft.

Einteilung der Ausbildung.

Die Ausbildung ist in drei Lehrgänge eingeteilt:

I. Lehrgang für Lehrlinge.
II. „ „ Gesellen.
III. „ „ Jungmeister.

Die Einzelausbildung bleibt dem Ermessen der einzelnen Meister im Rahmen des allgemeinen Programms und des in jedem Semester neu aufzustellenden Ausbildungsplanes überlassen.

Um den Studierenden eine möglichst vielseitige, umfassende technische und künstlerische Ausbildung zuteil werden zu lassen, wird der Ausbildungsgang so eingeteilt, daß jeder angehende Architekt, Maler oder Bildhauer an einem Teil der anderen Lehrgänge teilnehmen kann.

Aufnahme.

Aufgenommen wird jede unbescholtene Person ohne Rücksicht auf Alter und Geschlecht, deren Vorbildung vom Meisterrat des Bauhauses als ausreichend erachtet wird, und soweit es der Raum zuläßt. Das Lehrgeld beträgt jährlich 180 Mark. Außerdem ist eine einmalige Aufnahmegebühr von 20 Mark zu zahlen. Ausländer zahlen den doppelten Betrag. Anfragen sind an das Sekretariat des Staatlichen Bauhauses in Weimar zu richten.

APRIL 1919.

Die Leitung des
Staatlichen Bauhauses in Weimar:
Walter Gropius.

Figure 43. Two pages from the 1919 preliminary design of the Bauhaus Program (Manifesto). On the right, the woodcut by Lyonel Feininger, Cathedral of the Future. (Source: BR49.198, Harvard Art Museums/Busch-Reisinger Museum, Gift of Julia Feininger, © Artists Rights Society (ARS), New York / VG Bild-Kunst, Bonn, Photo President and Fellows of Harvard College)

Contrary to other cities where schools were located in existing buildings, at Dessau Gropius had the opportunity to build from scratch and according to the design principles he advocated for in his Manifesto. The empty fields in the rural area allowed freedom of form (Figure 44), and not least, closeness to the several city industries, both chemical and heavy engineering.[11] The following section shows how school settings mattered for students' education at Dessau. The École like the Bauhaus school was to provide an exemplary model to its students.

[11] Whitford, *Bauhaus. Masters and Students*, 198.

Figure 44. Aerial view of the Bauhaus school and its surrounding in Dessau (Source: BRGA.20.362, Harvard Art Museums/Busch-Reisinger Museum, Gift of Ise Gropius.)

Curriculum as school's setting.

In many ways the new school of the Bauhaus represented a break with École des Beaux-Arts like traditions of design education. On many occasions, Gropius remarked how different the Bauhaus was from the Parisian École.[12] Nevertheless in terms of settings, there were also common characteristics shared between the two schools.

Just like the Parisian École, with its Palais des Études and the *cour vitrée*, the Bauhaus school in Dessau stood as a physical manifestation of the principles included in its curriculum. The school provided an exemplary place to study in, and the manifesto, as well as the wheel shaped curriculum, created by Gropius himself in 1922 (Figure 45), were both visible within the schools' walls.[13] They both communicated the importance that the building placed for the students, and their education.

The curriculum diagram looked like a fortress with a series of concentric rings and was to be read from circumference inward toward the center (Figure 45). A preliminary six-months shared basic course for all students (outer side of

[12] See for example, Walter Gropius, *Scope of Total Architecture* (Collier Books, 1970), 47–48.

[13] Droste, *Bauhaus*, 48.

the diagram) prepared them to the next ring—workshop training. In this course students went through elementary instruction on form and had the chance to test various materials and techniques with the purpose to find their most suitable craft for continuing their training in the workshops.[14]

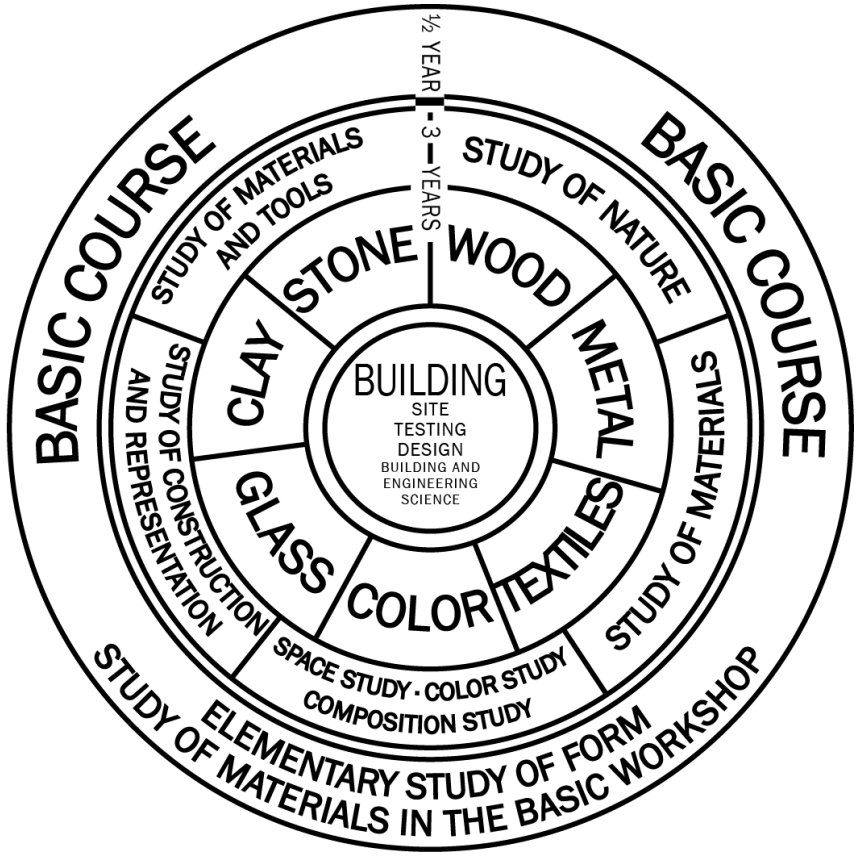


Figure 45. Wheel shaped diagram of the Bauhaus curriculum (Translated in English).

In the following stage, which occupied the most time in the curriculum, each student could initiate their training choosing one of the available trade crafts (middle ring in Figure 45). For three years, students would mainly train in their respective workshops, which were all grouped in a dedicated wing of the school regarded as the "laboratory of ideas."[15] They would receive both

[14] Dearstyne, *Inside the Bauhaus*, 85; Whitford, *Bauhaus. Masters and Students*, 53.

[15] Bauhaus Dessau Foundation, ed., *Archeology of Modernism. Conservation of the Bauhaus Dessau.* (Jovis, 2021), 22, 50–73.

manual and theoretical instruction responding directly to their workshop's master, but they also could attend theoretical classes from masters in the other workshops.[16]

Like in a fortress, the curriculum reserved the most valuable part at its core, Gropius's *Bau* (Building, as the synthesis of all crafts and arts around it). At the end of their workshop training, successful students could earn their "journeyman's certificate," but only the "more gifted" could then initiate their training in architecture.[17] There, students finally got in the architecture department, which Gropius years later defined as a combination of both training in the "Designing Studio" and the "Research Station."[18]

Even the students who moved to Dessau could sense the curriculum from the new Bauhaus building itself. The building, just like the curriculum diagram, worked as a fortress (Figure 46). The main blocks at the sides of the building contained the outer rings (right, top and bottom-left of Figure 46). At the first floor inside the top block, the students attended the basic course.[19] The rest of the block contained the most active, and noisy, part of the school—the workshops.[20] The other blocks contained respectively the technical school facilities (right block), and the student accommodations with the theatre and other facilities (bottom-left blocks).

Like in a fortress, the core of the curriculum had been reserved the central part of the building. Up in the two-story bridge connecting the workshops and the technical school (highlighted in the small circle) students could find the architecture department, last stage in the curriculum. The first floor in the bridge hosted the Director's office and other administration's offices.[21] Upstairs, second floor in the bridge, the only room above the Director's head was the architecture room.[22] Detached from the ground and at the center of all training facilities, the bridge's two floor could symbolize the authority within the rest of the building and its surroundings. The position of the Director's office, in between the architecture room and the rest of the school, underlined the relevance of the last stage of architecture training with the rest of the curriculum.

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[16] Dearstyne, *Inside the Bauhaus*, 95–96.

[17] Dearstyne, *Inside the Bauhaus*, 197.

[18] Gropius, *New Architecture and the Bauhaus*, 80; See also Dearstyne, *Inside the Bauhaus*, 197.

[19] Bauhaus Dessau Foundation, *Archeology of Modernism*, 62–63.

[20] Bauhaus Dessau Foundation, *Archeology of Modernism*, 50–73.

[21] Bauhaus Dessau Foundation, *Archeology of Modernism*, 62–63.

[22] Bauhaus Dessau Foundation, *Archeology of Modernism*, 68–69.

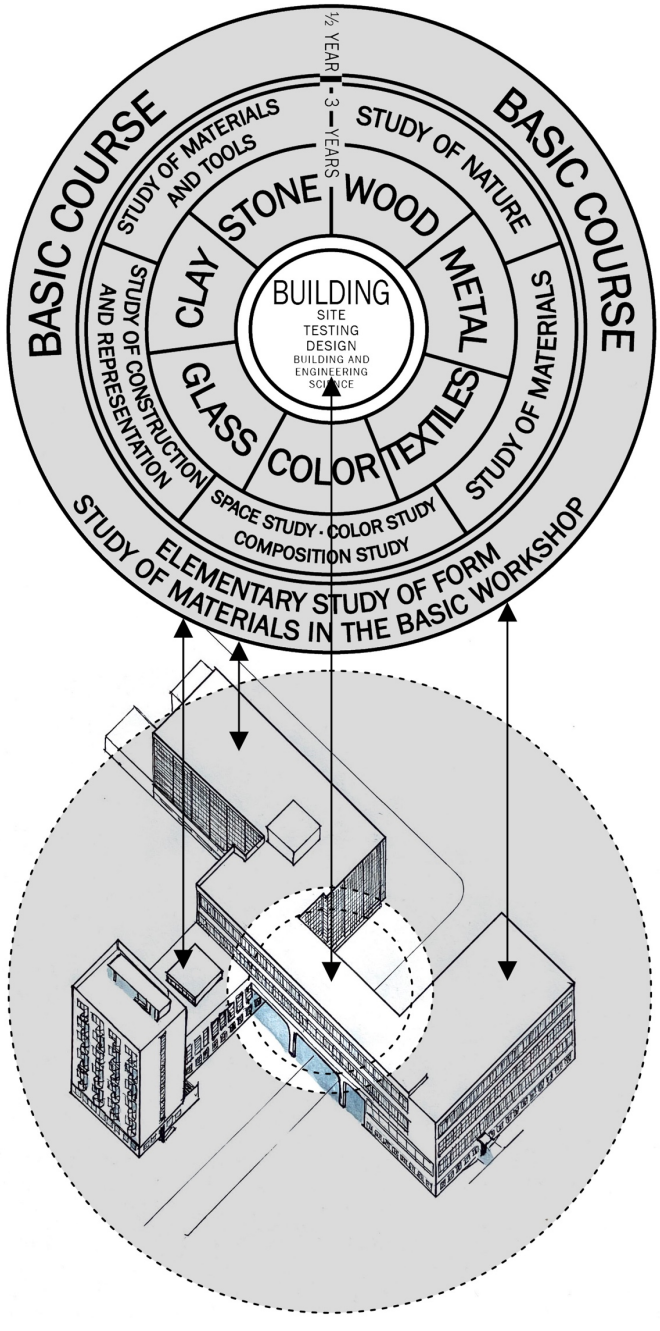

Figure 46. Bauhaus Curriculum Overlapping with Dessau School Settings. (Image by author.)

While highlighting the rounded curriculum and working as a fortress, the school building also embraced most of the principles, and scope, of Gropius's Manifesto. Like Lyonel Feininger's image, the first years at Bauhaus Dessau resembled the construction site of a medieval cathedral, with all crafts working together toward the same aim—the building of the new school. While occupying a temporary department store in Mauerstrasse,[23] students in the respective workshops were "actively involved in planning the interiors" of the new school.[24] Under the supervision of professor Marcel Breuer, students at the joinery workshop designed and produced all the furnishing for the school; lighting and lamp's design came from students' ideas at the metal workshop; students at the printing workshop took care of sign making and lettering; the weaving workshop designed and produced the upholstery and curtain fabrics.[25]

At the same time, the school building was a way to exhibit the "new unity" of art and technology which was already celebrated with an exhibition in Weimar in 1923. Built at an incredible speed between 1925 and 1926,[26] the school was a chance to test new ways of building as well as new materials.[27] Steel, concrete, glass—what Gropius called 'new synthetic substances'—were exclusively employed in the building structure.[28] New materials such as Torfoleum, Triolin, and Stonewood Screed had been tested both as flooring and insulating materials, and were so innovative that at times proved the inexperience of builders in ensuring their performance and correct installation.[29]

Moving to the new school building in Dessau required both students and faculty to adapt to a new context. The memories of Tut Schlemmer, Professor Schlemmer's wife, recalled the impact of the new building, "at that time a great rarity in steel and glass."[30]

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[23] Droste, *Bauhaus*, 229.

[24] Bauhaus Dessau Foundation, *Archeology of Modernism*, 21.

[25] Droste, *Bauhaus*, 198–99; Bauhaus Dessau Foundation, *Archeology of Modernism*, 21.

[26] Whitford, *Bauhaus. Masters and Students*, 199.

[27] Bauhaus Dessau Foundation, *Archeology of Modernism*, chap. 3.

[28] Gropius, *New Architecture and the Bauhaus*, 25.

[29] Bauhaus Dessau Foundation, *Archeology of Modernism*, chap. 3, and page 127.

[30] Neumann, *Bauhaus and Bauhaus People*, 167.

> We moved in, and this was a completely different world. Since we moved from a house built in the style of the early period of Van der Velde and we were somewhat romantically inclined, many things did not seem right when we moved into glass and steel. This was the beginning of a great transformation…The machine was accepted.[31]

School, workplace, home.

At Bauhaus Dessau, school settings as well as students' lifestyle recalled what the sociologist Erving Goffman, in the 1950s, called 'total institutions.' These were facilities where people lived far from the wider community for a considerable amount time, collectively followed a structured, and regulated routines, and where all aspects of life including sleep, play, and work were conducted in the same place. Although Goffman's concept may be usually associated with prisons and mental hospitals,[32] its definition shares much with the characteristics of Bauhaus Dessau. Like a total institution, Bauhaus Dessau offered its students both "a place of residence and work,"[33] where "all aspect of life are conducted in the same place and *under the same single authority*" and "member's daily activity is carried on in the immediate company of a large batch of others."[34]

Unlike modern society's individuals, who according to Goffman tend to sleep, play and work in different places,[35] students at Bauhaus could perform all three activities in the same building (Figure 47). Apart from school classrooms and workshops, the building included a festive area with entrance hall, theatre (both auditorium and stage), and canteen.[36] On the East side a five-story studio building provided accommodation for students and junior masters, with twenty-eight rooms, shared toilets and kitchenettes with balcony at each floor (Figure 47).[37] On the top there was a roof terrace for recreational activities, and on the basement, a gymnasium provided indoor

[31] Neumann, *Bauhaus and Bauhaus People*, 167.

[32] Nicos P. Mouzelis, "On Total Institutions," *Sociology* 5, no. 1 (1971): 113, https://doi.org/10.1177/003803857100500108.

[33] Erving Goffman, *Asylums* (Anchor Books, 1961), xiii.

[34] Goffman, *Asylums*, 6.

[35] Goffman, *Asylums*, 5–6.

[36] Bauhaus Dessau Foundation, *Archeology of Modernism*, 22.

[37] Bauhaus Dessau Foundation, *Archeology of Modernism*, 22–23.

spaces for gymnastic and free time exercise, and also showers and washing facilities.[38]

Living at the school could be convenient and usually there were more students sleeping over in the building than the number of rooms available. One of the students, Marienne Brandt, remembered how several of her classmates, who could not afford a better accommodation, used to sleep in the gymnasium and to utilize the rest of facilities.[39]

Like in total institutions, a sense of identity pervaded among the students as they felt to be part of a same community. Again, Tut Schlemmer's memories reminded how students, already in Weimar, started to share some common gestures and habits among themselves, for example "the Bauhaus whistle and the Bauhaus salute were invented," as well as a Bauhaus dance was developed and a "Bauhaus garment was designed."[40]

Like in other schools such as the École, jargon became part of this common identity. The memoirs of *élève* Alexis Lemaistre at the École des Beaux Arts recalled how the *élèves* developed their own jargon giving nicknames to things and people as well as to certain activities (see Chapter 3). At the Bauhaus, both students and faculty addressed the former as the *Bauhäusler* (namely Bauhaus people).[41] Similarly, the school studio building had been renamed by the students as the Preller House, "in remembrance of the Weimar Bauhaus times," where some students used to live together in a residential building that was donated to them by the landscape painter Friedrich Preller.[42]

As the Bauhäusler tended to spend most of their time engaging in activities at the school, the perception of their experience could also remind that of total institutions like cloisters. Memories of student Pius E. Pahl highlighted how exclusive his experience of Bauhaus was compared to that he had in other schools,

[38] Bauhaus Dessau Foundation, *Archeology of Modernism*, 22–23.

[39] Neumann, *Bauhaus and Bauhaus People*, 108; Magdalena Droste and Boris Friedewald, eds., *Our Bauhaus. Memories of Bauhaus People* (Prestel, 2019), 52.

[40] Neumann, *Bauhaus and Bauhaus People*, 165.

[41] See for example Neumann, 95, 251.

[42] Marie Neumüllers, ed., *Bauhaus Architecture in Dessau* (Bauhaus Dessau Foundation, 2002), 18.

There was no comparison between the atmosphere at the Bauhaus and that of any of the other schools I had attended. The Bauhäusler regarded themselves as part of the Bauhaus, just as monks might regard themselves as part of their monastery.[43]

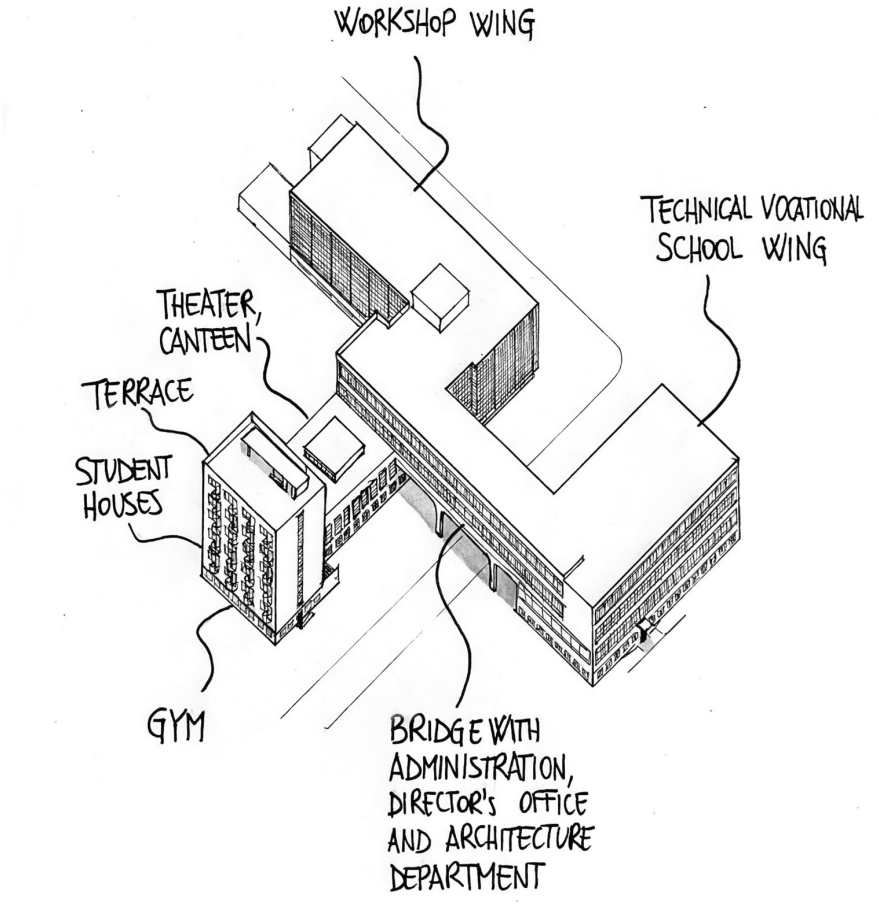

Figure 47. Isometric view of the school from southwest, with labelled functions (1926). (Drawing by author.)

[43] Neumann, *Bauhaus and Bauhaus People*, 251.

Sharing life beside training activities was not new at schools of arts. Alexis Lemaistre's memoirs at the École des Beaux Arts described how students from the same atelier could spend their time together also beside their training duties. Hanging out together in cafés and brasseries, attending processions and marches after each competition in the neighborhoods around the École, had become common routines among several students. At the same time, each atelier could work as a home for many students. Preparation for each competition set hard deadlines and required *élèves* to spend long hours working at their atelier, and that also included eating together, telling jokes, giving and receiving pranks, and perhaps also sleeping or napping prior submission of their work. Still, each *élève* had also their own place outside the *atelier* (see Chapter 3).

What changed at the Bauhaus was that the curriculum formally organized all aspects of students' life, from education and work training, providing accommodation to some, and making parties and leisure time a formal part of students' learning experience. Gropius's Manifesto stressed how "friendly relations" had to be encouraged "outside of the work by means of theater parties, lectures, poetry readings, concerts and fancy-dress balls."[44] Bauhaus Dessau, as German architecture historian Winfried Nerdinger noted, was "like a small world, contained within itself all spheres of life; living, eating, working, learning, entertainment, sports, and recreation" and this mixture of activities characterized its "community spirit."[45]

Attending the Bauhaus also meant *working* for the Bauhaus. Unlike technical schools and schools of arts and crafts in England where most apprentices attended evening vocational classes beside their jobs at factories, offices, or private workshops, Bauhaus students carried out their apprenticeship directly inside the school. The Bauhäusler performed their work training under the supervision of their professors at the school workshops, having agreed an indenture of apprenticeship with the Chamber of Crafts.[46] Later on, the school also introduced its own examination and diploma, instead of sending its students for examination to the local guilds.[47]

As Bauhaus workshops functioned like a working place, students could carry out their manual training working on real commissions. At Dessau, the

[44] Neumann, *Bauhaus and Bauhaus People*, 14.

[45] Winfried Nerdinger, *The Architect Walter Gropius* (H. Heenemann GmbH & Co., 1985), 70.

[46] Dearstyne, *Inside the Bauhaus*, 95.

[47] Whitford, *Bauhaus. Masters and Students*, 200.

school increased its collaboration with industry working on products to introduce in the market.[48] Establishing a limited-liability company had been necessary for trading "patents and designs" and providing a source of income.[49] Gropius's idea aimed at having both a "teaching and production" sections in every workshop, so that they could become profitable for the school.[50] That would guarantee that fees remained low for students, and also to pay those pupils whose works "proved salable."[51]

Linking workshops with the market outside was a way to merge experimentation with the larger industrial production, while keeping the school steering technological development. This link between education and industry was something new compared for instance with English Arts and Crafts schools like London Central (see Chapter 4).

5.2 Toward the core of the fortress.

While school settings recalled those of total institutions, the activities of the school strove to provide a total experience for the students, involving all aspects of their lives. Gropius's Manifesto described architecture as the "complete building"—the final aim of visual art.[52] He clearly expressed how art was not a profession and could not be taught. Architecture was to be the synthesis of all crafts and arts, and had to be taught in a school which had no distinction of class—no distinction between artist and craftsman.[53] Instead, students had to learn how to design buildings in their entirety, and just to begin with they had to start learning trades in the workshops.[54] The following section explores the wholeness of students' instruction inside the Bauhaus, which stretched from training and working in the workshops, to partying and playing in the rest of school facilities.

Exploring tools and materials

One of the main differences that students from art schools experienced at the Bauhaus was the different approach they had with drawing. Unlike Fine Arts

[48] Whitford, *Bauhaus. Masters and Students*, 200.
[49] Whitford, *Bauhaus. Masters and Students*, 200.
[50] Droste, *Bauhaus*, 213.
[51] See footnote 1 in Gropius, *New Architecture and the Bauhaus*, 95.
[52] Neumann, *Bauhaus and Bauhaus People*, 13.
[53] Neumann, *Bauhaus and Bauhaus People*, 13.
[54] Neumann, *Bauhaus and Bauhaus People*, 13.

schools and schools of Arts and Crafts, at Bauhaus in Dessau there was no equivalent setting like the *cour vitrée*, or any hall of casts from the antiquity. At the École, a preliminary course was *l'enseignement simultanée des trois arts* at the *École*, which considered drawing as shared instruction among the arts.[55] Having drawing as a core discipline, and as a common basis among the various arts, had been a shared principle in art academies since Vasari's Florentine academy, more than three centuries earlier (see Chapter 3).

For Bauhaus students, the preliminary course had a different purpose compared to drawing courses at other schools. As reported by Johannes Itten, creator and first teacher of the course, students had three main tasks to achieve during a span of six months.[56] First they had to free their creativity, by escaping from usual artistic conventions and gaining trust in their unexpressed potential. Secondly, the course was meant to facilitate their choice of discipline and future career. Thirdly, it was to guide them through the discovery of the basic principles of design, theory of color and of form. To achieve these tasks, Itten placed at the center students' experiences of their own training. His pedagogy consisted in letting the students learn to perceive the tensions between "intuition and method," and between "subjective experience and objective recognition."[57]

Drawing remained one of the several ways students could explore their creativity and their knowledge of materials. It was not about learning to draw as a methods for working with different disciplines and materials. Instead, it was about seeking what characteristics made a material unique compared to others, by handling and juxtaposing their properties, such as texture, fabric, elasticity; this was something which simple drawing would not render visible.[58]

During the course, students would discover their preferred type of work and materials, and they would be able to choose one of the available disciplines and respective workshop to continue their training in the following three years (second ring in the rounded curriculum diagram).[59] According to the school law, all sections of education were open to both male and female students, and there was no restriction of study in any of the

[55] Chafee, "Teaching of Architecture at the École," 84.

[56] Whitford, *Bauhaus. Masters and Students*, 53.

[57] Droste, *Bauhaus*, 31.

[58] See for example the outcome of students' works during the preliminary course in Whitford, *Bauhaus. Masters and Students*, 30–39.

[59] Dearstyne, *Inside the Bauhaus*, 85.

disciplines, apart from their skills and talents.[60] But in practice, although female students were well represented in the student body, after the preliminary course they were often directed to the weaving department, with pottery and bookbinding workshops as possible alternatives.[61] Only a few of them were able to initiate their training in other workshops; among them Marianne Brandt attended the metal workshop, Alma Buscher the furniture workshop, and Lotter Beese was the first women to attend the architecture department.[62]

While Bauhaus teachers changed during the years, the preliminary course remained for all students a common point of departure for their studies. Since becoming compulsory, both women and men had to take the course before entering the main stage of training inside the workshops.[63] Years later, Josef Albers, third teacher to step in to teach the preliminary course, highlighted a similar approach to that of his earlier colleagues. A student, Hannes Beckmann, remembered Albers introducing the course by describing how arts depended on the artist's knowledge of materials and their possibilities of use: "All art starts with a material and therefore we have first to investigate what our material can do."[64]

All education at the Bauhaus endured the hardship of the post war and adapted to the economic context around the school. Students and instructors attending the Bauhaus in 1920s had experienced famine, hyperinflation, and shortage of any sort of commodities and raw materials. Likewise, teaching had to adapt, and some forms of training were favored, or better forced, by those conditions.

In many cases instructors encouraged students to work with scrap. A student Bauhaus in Weimar, Alfred Arndt, recalled his experience during the preliminary course under Johannes Itten: "Itten urged us to be on the look-out on our walks for materials in refuse dumps, junks piles, garbage cans and scrap heaps."[65] At the end of the 1920s, Hannes Beckmann remembered the first days of the preliminary course, when Josef Albers entered the class with a "bunch of newspaper" for the students to work with; he recalled Albers introducing the class by saying something like this:

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[60] Droste, *Bauhaus*, 56–58.

[61] Droste, *Bauhaus*, 58.

[62] Droste, *Bauhaus*, 58–59, 301.

[63] Dearstyne, *Inside the Bauhaus*, 86.

[64] Whitford, *Bauhaus. Masters and Students*, 224.

[65] Whitford, *Bauhaus. Masters and Students*, 57.

> Ladies and Gentlemen, we are poor, not rich. We can't afford to waste material or time. We have to make the most out of the least. … Economy of form depends on the material we are working with. Notice that often you will have more by doing less.[66]

Waste materials like old newspapers, which no longer served their original purpose, could still hold creative potential for students. While paper was inherently linked to drawing, it could also be employed in other ways, for example for testing its properties when folded, cut or glued making three-dimensional sculptures (Figure 48).

Figure 48. Professor Josef Albers, bent in front of his students (right) while assessing their work in the preliminary course. Peer review of the "Paper Folding" exercise, materials study, preliminary course by Josef Albers, Bauhaus, Dessau, 1928–29 (Photograph: Umbo (Otto Umbehr) © Gallery Kicken Berlin/Phyllis Umbehr/VG Bild-Kunst, Bonn, 2025.)

Working with cheap material and waste of any sort became both a virtue and a necessity. It forced students to look at materials in different ways and search them for their unexpressed potential. Teachers would also stress the

[66] Whitford, *Bauhaus. Masters and Students*, 224.

importance of looking at new technology and including it in the process. A student, T. Lux Feininger, stressed his impression when Albers at the preliminary course introduced little new objects like staplers: "a stapler, not so common then as now, and demonstrating its various possibilities with great inward satisfaction."[67]

This economy of materials and of forms placed great importance in the connection of Bauhaus with industry, a link that earlier attempts like that at London Central school of Arts and Crafts did not achieve (see Chapter 4). At Dessau, this connection with industry was stressed since the preliminary course, and study visits to factories around the school were frequent so as to make the students familiar with the production process.[68] Again, T. Lux Feininger recalled one of the site visits around the school with Albers's class:

> "I also remember his leading us through a cardboard box factory, a depressing place to me (I confess), and pointing out manufacturing particulars, both good and bad (i.e. capable of improvement), with the kind of religious concentration one would expect from a lecturer in the Louvre.[69]

A total experience

Just like the school settings recalled total institutions, student training at the Bauhaus was a total experience embracing all aspects of their lives. Professor of art history Magdalena Droste recalled how students' education alternated aspects of work, play, and party; for Itten the motto for his teaching was "Play becomes party – party becomes work – work becomes play."[70] Such expression highlighted almost a cyclic nature of these activities, and a kind of interdependence, in student lives.

Training in the workshops occupied the main part of the curriculum in the three years following the preliminary course. The student Howard Dearstyne recalled how students joining a workshop had specific duties and requirements to fulfill for their training.[71] After a trial period of six months, students were officially enrolled in the course, which included both craft instruction (more oriented to the practical handling of materials and tools)

[67] Whitford, *Bauhaus. Masters and Students*, 223.
[68] Dearstyne, *Inside the Bauhaus*, 90.
[69] Whitford, *Bauhaus. Masters and Students*, 223.
[70] Droste, *Bauhaus*, 50.
[71] Dearstyne, *Inside the Bauhaus*, 95–96.

and form instruction (regarding theory of design) with their master.[72] All tuition was compulsory for the students within their workshop. Students could also choose to attend courses at other workshops, and with the permission of their workshop master, they were allowed to receive "technical and aesthetic advice from other masters."[73] This way of training fostered collaboration among the various workshops that was similar to Arts and Crafts schools like London Central school (see Chapter 4).

Collaboration among various workshops was also supported by the fact that they worked on real commissions to produce their manufactures. For example, among the successful Bauhaus commercial products, the numerous toys coming out from the woodcarving workshop were then painted by apprentices at the mural workshop.[74] The weaving workshop students collaborated particularly with the joinery department, providing upholstery and tapestry for furniture making.[75] For the lighting production, the metal workshop masters also welcomed the introduction of materials such as glass and plexiglass.[76]

Apprentices had to work six hours a day at their workshops,[77] and as recalled by student Pius E. Pahl, at the end of each term they all had to show their work to each other.[78] There was no exam during the semester, but only a continuous discussion with the masters.[79] Contrary to what students experienced at Fine Arts schools like the École, and whose projects were assessed behind closed doors, project evaluation at Bauhaus was an open and shared moment with all students (see Figure 48). One of them, Alfred Arndt, remembered how in some cases like in Itten's class, students took the lead in the evaluation as part of the learning experience: "As always, Itten let the students decide which works were best."[80]

Concerning workshop training and the rest of education, there seemed to be a common shared idea that work activities had to deal with play and fun.

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[72] In the first years in Weimar, each workshop was led by two masters—one master of form, and one craft master—with the intent to give students a comprehensive education covering both theoretical teaching and practical training. In the later years, there was only one master leading each workshop.

[73] Dearstyne, *Inside the Bauhaus*, 96.

[74] Droste, *Bauhaus*, 143–55.

[75] Droste, *Bauhaus*, 116.

[76] Droste, *Bauhaus*, 122–32.

[77] Droste, *Bauhaus*, 48.

[78] Neumann, *Bauhaus and Bauhaus People*, 253.

[79] Neumann, *Bauhaus and Bauhaus People*, 190.

[80] Droste, *Bauhaus*, 32.

Evoking memories from T. Lux Feininger associated the design process as a playful and joyful moment, highlighting the importance of "*play* with simple geometrical form"—an earnest activity not only meant for the young, but for all ages.[81] Feininger's association of work with play speaks of an "archetype" which everyone can experience, but that needs to be cultivated.[82] Only a few years later in 1938, the work of Dutch historian and cultural theorist Johan Huizinga would reflect on the same ideas of play in his *Homo Ludens*. His underlining of play as a mode of being that drives cultural and artistic progress was in contrast with old nineteenth century ideas of utilitarianism which still characterized education in England.[83]

In parallel with workshop training, the idea of play at the Bauhaus concerned acting and performing. The Manifesto specified how the school encouraged "friendly relations" between "masters and students outside of the work" "by means of theatre parties, lectures, poetry readings, concerts, and fancy-dress balls."[84] Many evenings at the Bauhaus featured literary readings by guests artists, or performances by the students themselves with the intent of welcoming and opening the school to the local community.[85] But play and performances were also part of students' training and experimentations under Oskar Schlemmer, master of the theatre workshop. His course was a way to explore space, proportion, and architecture, on stage with the human body through a choreutic art like dance.[86]

Performances at the Bauhaus theatre could also turn into festive celebrations and costume parties. Among them, the Metal Festival in 1929 took place in the entire school building, with people wearing metallic costumes, "an amusing confusion of film scenes alternated with a variety of performances by representatives of the Bauhaus."[87] Other celebrations' recurrence, like the Lantern party, the summer solstice party, the Kite festival, and the Christmas party, were highly valued by all school members.[88] A student, Farkas Molnár, remembered one of these fancy dress parties where both students and faculty participated:

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[81] Neumann, *Bauhaus and Bauhaus People*, 192.

[82] Neumann, *Bauhaus and Bauhaus People*, 192.

[83] Johan Huizinga, *Homo Ludens. A Study of the Play-Element in Culture* (Angelico Press, 2016), 1–27, 191–92; Neumann, *Bauhaus and Bauhaus People*, 192.

[84] Neumann, *Bauhaus and Bauhaus People*, 14.

[85] Droste, *Bauhaus*, 50.

[86] Droste, *Bauhaus*, 244–46.

[87] Whitford, *Bauhaus. Masters and Students*, 278.

[88] Droste, *Bauhaus*, 50.

> A snail arrives, is lifted into the air, squirts perfume and emits beams of lights…Kandinsky loved to appear as a radio aerial. Itten came as an amorphous monster, Feininger as two right-angled triangles. Moholy-Nagy as a segment penetrated by a cross, Gropius as Le Corbusier, Muche as an unwashed apostle and Klee as the song of the blue tree…[89]

These festive celebrations seem to be quite similar to those happening at the École des Beaux Arts, like the *Bal des "Quatz" Arts* (Ball of the Four Arts) (discussed in Chapter 3). However, at Bauhaus they were a structural part of the curriculum and supported by the faculty. Not least, as Farkas Molnár noticed, all faculty attended these events together with students, suggesting an occasion to facilitate those informal and friendly relationships between masters and students that were described in the Manifesto.

As claimed by Itten, party turned into work. At times, it could also turn into *profitable* work. In 1929, the success of the Bauhaus parties and performances reached outside the school walls and the Bauhaus theatre went on a tour in many cities in Germany and Switzerland with their shows.[90]

Reaching the "Bau" – or Total Architecture

The main part of students' journey at the Bauhaus occupied them with training through the first two rings of the rounded school curriculum (the preliminary course, and apprenticeship with workshop training). Once the students got their journeyman's certificates, only the most talented would then be able to continue their training in architecture—the core of the curriculum placed at the top floor in the school building bridge.[91] Gropius' idea was that in this final stage, apart from the drafting office and the rest of the architecture department, the students would gain access to all the workshops and facilities of the school.[92] This was to allow them to study crafts beside their own and collaborate in project commissions in a transdisciplinary manner with all the workshops.[93]

For Gropius, such a path would lead an ideal synthesis for architecture training. This was the way architects ought to be trained and the only way

[89] Whitford, *Bauhaus. Masters and Students*, 121.
[90] Droste, *Bauhaus*, 246.
[91] Dearstyne, *Inside the Bauhaus*, 197.
[92] Herbert Bayer et al., eds., *Bauhaus, 1919-1928* (Charles T. Brandford Company, 1959), 27.
[93] Bayer et al., *Bauhaus*, 27.

they had to operate as practitioners. Years later, he described this as reaching a "total architecture" where cooperation and teamwork were key aspects of the profession:

> I have come to the conclusion that an architect or planner worth the name must have a very broad and comprehensive vision indeed to achieve a true synthesis of a future community. This we might call "total architecture." To do such a total job he needs the ardent passion of a lover and the humble willingness to collaborate with others, for great as he may be he cannot do it alone.[94]

At Bauhaus, Gropius's idea for the architecture department was that it had to work on real work commissions like a real office, and like any other workshop at the school. In the early years in Weimar, the first work commission had been the renovation of the municipal theatre in Jena, which gave work commissions to all school departments.[95] But in the same years, complains like Oskar Schlemmer's emerged, lamenting the lack of a real architecture department at the school:

> The Construction and Architecture Class or Workshop, which should be the core of the Bauhaus, does not exist officially, but only Gropius's private office. His commissions for factories and houses, carried out with more or less finesse, thus provide the centre round which everything else is supposed to revolve.[96]

In terms of settings, this aspect of the Bauhaus training was not far from office pupilage and apprenticeship under architecture practitioners encountered in England a few decades earlier (see Chapter 4). Training in architecture was carried out under the guidance of a master practitioner, just like for pupils in nineteenth century England. However, the architecture office at the Bauhaus was under direct control of the school, and in connection with the other departments. Moreover, the students reaching this stage, had already had several years of training as apprentices, and had become journeymen practitioners.

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[94] Gropius, *Total Architecture*, 153.

[95] Droste, *Bauhaus*, 179–80.

[96] Whitford, *Bauhaus. Masters and Students*, 133.

Other students complained about the structure and rules of the curriculum with architecture training placed only at the end of the training—a fortress where even its members had difficulties reaching the center. Howard Dearstyne reported how for the first years in Weimar there had been no architecture department simply because there were no students who had gone through the whole program yet.[97] Another two students, Hans Volger and Erich Brendel, directed their written critiques to the Bauhaus Direction:

> Our continuing to study at the Bauhaus depends on the introduction…of a course in architecture. We are *for* the retention of compulsory work in the Workshops in the mornings, but at the same time we want everything to be done to train us in architecture. This would do justice to the ultimate and final significance of the 'Bau' (building) haus philosophy.[98]

Although the architecture department had its own dedicated setting at Bauhaus Dessau, students had to wait until the arrival of a new director to see it functioning as Gropius had formerly idealized. Architect Hannes Meyer, who substituted Gropius in 1928, promoted a different approach to architecture training, introducing new technical courses for the students[99] and organizing their activities according to an increased number of work commissions.[100] Students could work on small assignments such as isolated building projects, take part to larger project commissions such as the development of Törten estate, or the German Trades Union school, and lastly, they could work on their diploma projects and on independent activities.[101]

Under Gropius and Meyer the steps for students training followed the rounded curriculum, with architecture placed at the end—core—of their education. Nonetheless, the curriculum changed under the last Bauhaus director, architect Ludwig Mies van der Rohe. Mies prioritized training in architecture making all architectural courses available to students already in the second step of the curriculum (after the preliminary course).[102] Courses

[97] Dearstyne, *Inside the Bauhaus*, 198.
[98] Whitford, *Bauhaus. Masters and Students*, 185.
[99] Dearstyne, *Inside the Bauhaus*, 210.
[100] Whitford, *Bauhaus. Masters and Students*, 202.
[101] Droste, *Bauhaus*, 300–301.
[102] Droste, *Bauhaus*, 326–28.

in architecture encompassed three stages: the study of fundamentals like building law and statics, heating and ventilation, materials; the study of urban design and city planning taught by town planner Ludwig Hilberseimer; the last step mostly focused on residential housing design taught by Mies.[103]

Contrary to the early years of the Bauhaus, drawing under Mies became a central part of student training. Starting from Albers's preliminary course, Mies required freehand drawing to be included in the training, to make students hone their drawing skills before starting their architecture training.[104] Also in the final courses, such as those held by Mies himself, students like Howard Dearstyne recalled how he required great dedication to drawing, as he used to encourage students to work tirelessly at their sketches.[105] Another student, Pius Pahl, also recalled how there were no specific drawing conventions, like those at the École for example, and students were free to choose their techniques, tools, and material:

> One student arrives at the studio with millimeter paper DIN A 4, on which he has drawn the plan to a scale of 1 to 100, using the millimeter divisions. Another has bought cheaply from a printer the crumbled remainder of a roll of newsprint and shows the room from all directions in large consecutive freehand perspectives. Mies is very pleased when the student spreads the ten-meter-long "ribbon" on the floor.[106]

With three different directors—Gropius, Meyer, and Mies—the Bauhaus proved to be an experiment that changed and adapted through the years. Though they used different means, they kept architecture as a shared common end. While architecture training was placed at the core of the school settings under Gropius, it was placed by Mies at the core of their practice since the beginning of the training. With the architecture studio functioning as a main place for design training since 1930, the rest of workshops—which had lost their capacities as contractors—became a supporting apparatus.[107]

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[103] Droste, *Bauhaus*, 335–41.
[104] Droste, *Bauhaus*, 338.
[105] Dearstyne, *Inside the Bauhaus*, 226.
[106] Neumann, *Bauhaus and Bauhaus People*, 253.
[107] Droste, *Bauhaus*, 326–28.

5.3 Outside the fortress – Bauhaus legacy in the United States

The Bauhaus, as a total institution, directly influenced students' learning and productivity. After its closure, Gropius described its "stimulating atmosphere" as a distinctive quality that enabled students to "produce above average" because they were so inspired by the shared work.[108] Compared to their work at the Bauhaus, Gropius believed students' work outside the school was not as strong. He saw the Bauhaus as a "large team family" that fostered the best potential in each individual.[109]

Despite Gropius's belief, the ideas, as well as the practices and settings of Bauhaus education reached outside the school, influencing both architectural practices as well as education at other schools. Following the continuous restrictions imposed by the Nazi party, and the permanent closure of the Bauhaus in 1933, many teachers and students moved to other countries. As they started practicing and teaching abroad, they continued to develop Bauhaus pedagogy and principles.

In the 1930s, the effects of the Depression in the United States had challenged the current way of building and doing architecture which focused primarily on the aesthetics principles of fine arts education.[110] Since 1931, Bauhaus architecture and ideas became particularly influential through several exhibitions, promoting innovative approaches which became widely appreciated in the United States.[111] The "International Style," defined like this by architecture historian Henry-Russell Hitchcock in 1932 began to challenge and replace fine-arts with functionalism.[112] The effects of Bauhaus influence were particularly visible in the United States, as some of its members, both teachers and students, opened their practices there.[113] A few decades later, American journalist and author Tom Wolfe sarcastically defined them the "White Gods," for their esteemed influence in establishing

[108] Walter Gropius, *On Selection and Students*, Bauhaus Reviewed 1919-1933 [LTMCD 2472], LTM Recordings, 2007, Audio, 72 minutes, https://open.spotify.com/album/3oBfpx7fN6gCVAka72R1r2.

[109] Gropius, *On Selection and Students*.

[110] Joan Ockman and Williamson, *Architecture School*, 100; Tom Wolfe, *From Bauhaus to Our House* (Picador, 2009), 43.

[111] Hans M. Wingler, *The Bauhaus. Weimar, Dessau, Berlin, Chicago* (The MIT Press, 1980), 569, 572.

[112] Wolfe, *From Bauhaus to Our House*, 29–34; Henry-Russell Hitchcock and Philip Johnson, *The International Style* (The Norton Library, 1966), https://archive.org/details/internationalsty0000hitc/mode/2up.

[113] For example, Walter Gropius, Marcel Breuer, Mies van der Rohe, Herbert Bayer.

the idea of doing modern architecture as well as the building environment of American cities.[114]

Nonetheless, the influence of Bauhaus did not remain only a 'style' but was also visible in teaching programs where prominent instructors were also given leading positions at various universities. The first contribution of Bauhaus teachers to American design programs was that of Joseph Albers, together with his wife Anni, at the newly founded Black Mountain College in North Carolina, in 1933.[115] The work of scholar JoAnn Ellert at Black Mountain College highlighted how their teaching methods were a continuation of what they taught at Bauhaus in Germany.[116] Students reported how Albers, as head of the art department,[117] successfully based his classes and exercises on his preliminary course at Bauhaus.[118] At the same time, influence from Bauhaus people also poured into workshop training; the writer Louis Adamic, who visited the school in those years, recalled how workshop classes reminded him those at Bauhaus.[119]

More consistent attempts into continuing the Bauhaus came from László Moholy-Nagy who had the possibility to establish a new school with a new curriculum. Defined as the "truly legitimate continuity" with the German school, the New Bauhaus school opened in Chicago, Illinois in 1937.[120] There, Moholy-Nagy attempted to transfer the whole idea of Bauhaus and to develop it into a new environment.[121] The organization of the program, for instance, followed the original tripartite rounded curriculum which included the basic course, intermediate training in six different workshops, and a final phase of architecture training (left part of Figure 49).[122]

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[114] Wolfe, *From Bauhaus to Our House*.

[115] JoAnn C. Ellert, "The Bauhuas and Black Mountain College," *The Journal of General Education* 24, no. 3 (1972): 146–47.

[116] Ellert, "Bauhuas and Black Mountain College," 146–48.

[117] Ellert, "Bauhuas and Black Mountain College," 146.

[118] Ellert, "Bauhuas and Black Mountain College," 148–50.

[119] Ellert, "Bauhuas and Black Mountain College," 148–50.

[120] Wingler, *Bauhaus. Weimar, Dessau, Berlin, Chicago*, 574.

[121] Wingler, *Bauhaus. Weimar, Dessau, Berlin, Chicago*, 192.

[122] Wingler, *Bauhaus. Weimar, Dessau, Berlin, Chicago*, 192–205; For extended description of Moholy's work and idea on the new school see also Sibyl Moholy-Nagy, *Moholy-Nagy. Experiment in Totality*, Second edition (The M.I.T. Press, 1969), https://archive.org/details/moholynagyexperi00moho/mode/2up.

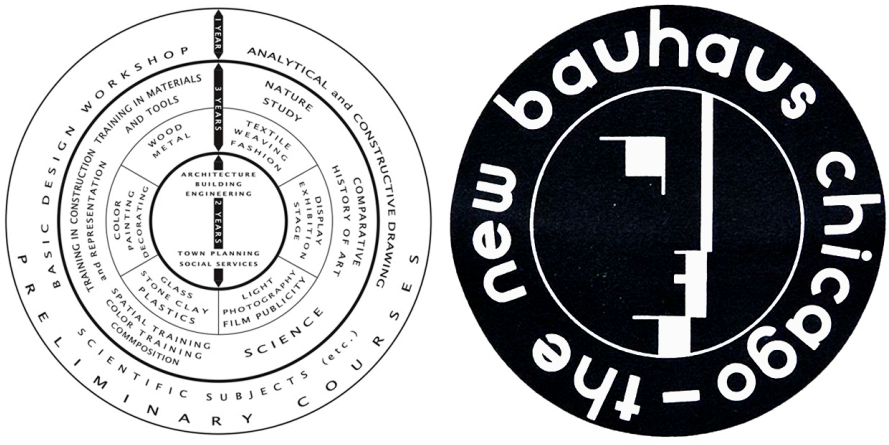

Figure 49. Program (left) and logo (right) of the New Bauhaus school in Chicago. (From: Wingler, p. 192, 194. Image edited by author.)

Other contributions of Bauhaus instructors to American programs came from two Bauhaus directors, Gropius at Harvard, and Mies van der Rohe at the Illinois Institute of Technology respectively. In Chicago, Mies van der Rohe had a major role in reshaping both the curriculum and the physical settings of the Illinois Institute of Technology (IIT). Upon taking the lead as head of the architecture department in 1938, Mies, together with other two Bauhaus teachers, Ludvig Hilberseimer and Walter Peterhans, established a curriculum which drew much influence from their previous experience in Germany.[123] Moreover, Mies had also the possibility to leave a physical presence of his architecture practice at the school. In 1940 he was commissioned the project of a new campus, the Technology Center, which included facilities for various schools and faculties.[124]

In other cases, like that of Harvard, the influence of Bauhaus teachers merged with an ongoing process of school development. In 1937, when Gropius arrived at Harvard to lead the architecture department, dean Joseph Hudnut had already initiated major changes.[125] The most significant of them

[123] See for example the description of the new architecture curriculum in Alfred Swenson and Pao-Chi Chang, *Architectural Education at IIT. 1938-1978* (Illinois Institute of Technology, 1980), 7, 19–25, https://archive.org/details/architecturaledu00text.

[124] Swenson and Chang, *Architectural Education at IIT*, 13–15.

[125] Joan Ockman and Williamson, *Architecture School*, 103–4; Jill Pearlman, "Joseph Hudnut's Other Modernism at the 'Harvard Bauhaus,'" *Journal of the Society of Architectural Historians* 56, no. 4 (1997): 459–63.

was the gathering of the three schools of Architecture, City Planning, and Landscape Architecture under the same roof—the Graduate School of Design (GSD).[126] The main purpose was to increase collaboration among the three professional curricula, as the three professions had always worked together in practice, as well as to simplify school administration.[127]

The presence of Gropius was felt already from the reading of yearly *Reports of Departments* in 1938. "Simple experiments," aiming at experiencing the characteristics of materials, design processes, and concepts such as color, proportion, scale, recalled those carried out at the preliminary course in Dessau (discussed earlier in this chapter).[128] Also, theoretical learning would be supported by more "productive work" in the design studio.[129] At the same time, the proposal to integrate studio training with hands-on experience in wood, stone, glass, and metal workshops also reflected Bauhaus influence.[130] In the program, Gropius took over the graduate studio at the most advanced level.[131] One of the main points stressed by Gropius in his teaching was to provide a "method of approach" rather than the promotion of new style.[132] Gropius's way of forwarding this idea was to treat the design studio like an office and to address design problems which took into account economic, social, and technological issues at once, just like in a real practice.[133]

This way of treating educational settings like studio class as its equivalent in practice was also a characteristic common of English technical and applied arts schools (discussed in Chapter 4). One of the major changes operated under Gropius at GSD was to extend this method of education by means of design studio classes to all years in the program. In addition to the graduate studio taught by Gropius in the last year, the "studio system" introduced

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[126] *Harvard University. Issue Containing the Report of the President of Harvard College and Reports of Departments for 1935-1936*, Vol. XXXIV, No. 11 (Harvard University, 1937), 229, https://iiif.lib.harvard.edu/manifests/view/drs:427018336$1i.

[127] *Reports of Departments for 1935-1936*, 229.

[128] *Harvard University. Issue Containing the Report of the President of Harvard College and Reports of Departments for 1936-1937*, Vol. XXXV, No. 4 (Harvard University, 1938), 246, https://iiif.lib.harvard.edu/manifests/view/drs:427018354$1i.

[129] *Reports of Departments for 1936-1937*, 246.

[130] *Reports of Departments for 1936-1937*, 246.

[131] *Reports of Departments for 1936-1937*, 247.

[132] Anna Vallye, "Design and the Politics of Knowledge in America, 1937-1967: Walter Gropius, Gyorgy Kepes" (Columbia University, 2011), 116, https://doi.org/10.7916/D883401H.

[133] See for instance Vallye, "Design and the Politics of Knowledge," 129; Joan Ockman and Williamson, *Architecture School*, 103; Henry N. Cobb, *Henry N. Cobb. Words & Works. 1948-2018. Scenes from a Life in Architecture* (The Monacelli Press, 2018), 29.

studio courses in each year for the duration of one-half to a full year, and under the direction of other masters.[134] As described in the reports of school, this was to provide students with the opportunity to work in different studios and learn from different masters. [135]

In all these cases, the influence of Bauhaus teachers shaped the programs so personally that the schools became closely associated with their individual names and reputations. As discussed by Wolfe, even more than the system of instruction they introduced, "it was their very presence" that made them so influential.[136] At Harvard, in the official report of the Gradual School of Design, Dean Joseph Hudnut credited the success of the architecture program to Walter Gropius, and whose arrival on the faculty led to a student increase in his course of more than 100% in the 1937-38 academic year.[137] Many students decided to enroll in the program just because they wanted to be trained by him.[138]

The influence of the instructor also prompted a distinct way of representing the teaching environment to those outside studios. The publication of pictures like that in the front cover of the Harvard Alumni Bulletin in 1946 (Figure 50 and Figure 51) became a way to celebrate the instructor as a star and advertise the program beyond the school's walls. Visual materials like these not only documented what happened inside design studios but also served to market the institution and promote a particular idea of design studio education.[139]

[134] *Harvard University. Issue Containing the Report of the President of Harvard College and Reports of Departments for 1939-1940*, Vol. XXXVIII, No. 20 (Harvard University, 1941), 266–67, https://iiif.lib.harvard.edu/manifests/view/drs:427018453$1i.

[135] *Reports of Departments for 1939-1940*, 266–67.

[136] Wolfe, *From Bauhaus to Our House*, 38.

[137] *Reports of Departments for 1936-1937*, 247.

[138] Cobb, *Words & Works*, 30.

[139] *Harvard Alumni Bulletin*, March 30, 1946.

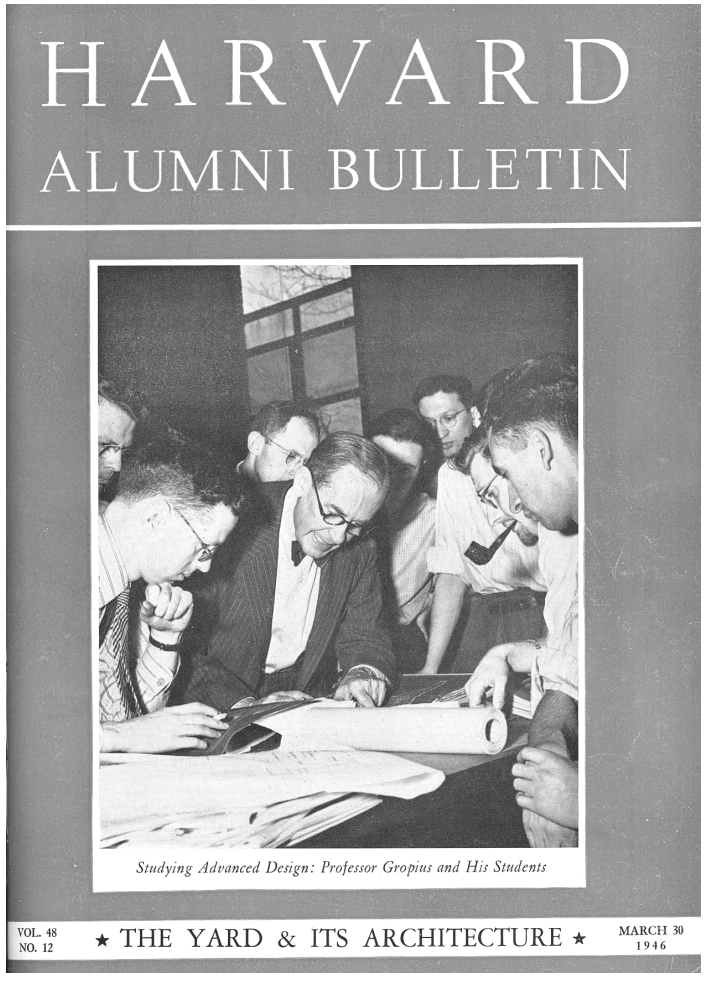

Figure 50. Harvard Alumni Bulletin cover portraying Gropius in his studio with students (Vol. 48, No. 12, March 1946). (Source: HUK 137 v. 48. Harvard University Archives.)

These kinds of representations carried symbolic meaning regarding the type of practices, behaviors, habits, and student-teacher relationship within studios. The instructor, placed at the center, played a role model for the students. His outward appearance, which the students sought to imitate, conveyed the ideals of a professional practitioner's character.

The images, depicting students gathered around the master and engaging in a common shared activity with deep attentiveness, also evoked a tone reminiscent of religious devotion. The master is portrayed as a sort of

prophet—a "White God"[140]—in his studio, and the students as his disciples eager to learn from his teaching.

Figure 51. Gropius (center) surrounded by students in his design studio (1946). (Source: UAV 605.270.1 (G-422), olvwork693262. Harvard University Archives.)

Similar influence from Bauhaus instructors was described by students at the New Bauhaus in Chicago. Student Richard Koppe remembered how his education at the school was profoundly influenced by Moholy-Nagy:

> "It would be difficult if not impossible to separate the school from Moholy as a person. He was extremely active and worked closely with the other members of the staff in every area. … [He] was one of the most dynamic personalities I have ever met."[141]

[140] Wolfe, *From Bauhaus to Our House*.
[141] Neumann, *Bauhaus and Bauhaus People*, 261–62.

Koppe also remembered how students often visited Moholy in his apartment, which contained many samples of his work, paintings, light modulators, sculptures, and furniture from other artists.[142]

Koppe's point of view about Moholy-Nagi paired with that of students and scholars in other schools, and which had not studied under Bauhaus teachers. The work of Ellert on Black Mountain College revealed how Joseph Albers became "the major personality" of the school after assuming the lead in 1940.[143] She also noted that the writer Louis Adamic, a contemporary of that period, regarded Albers as more important to the school than its founder, John Andrew Rice.[144]

At the Illinois Institute of Technology, the whole institute and new campus buildings became soon associated with the name of Mies van der Rohe, who planned and designed the project. Scholar Frank Aylward claimed how Mies's new campus became "a place of pilgrimage," highlighting its significance as a destination worth visiting for its innovative design.[145] He also reported how magazines of the time, such as the *Architectural Forum* defined it "the best architectural expression of a technical college in the world – and perhaps the only consistent one."[146] Again, like in the cases above, the analogy with religious practices, claimed by Wolfe a few decades later, highlighted a distinctive influence exercised by Bauhaus instructors on design education.

[142] Neumann, *Bauhaus and Bauhaus People*, 262.

[143] Ellert, "Bauhuas and Black Mountain College," 146.

[144] Ellert, "Bauhuas and Black Mountain College," 146.

[145] F. Aylward, "The Illinois Institute of Technology," *Education + Training* 2, no. 6 (1960): 9, https://doi.org/10.1108/eb014834.

[146] Aylward, "Illinois Institute of Technology," 9.

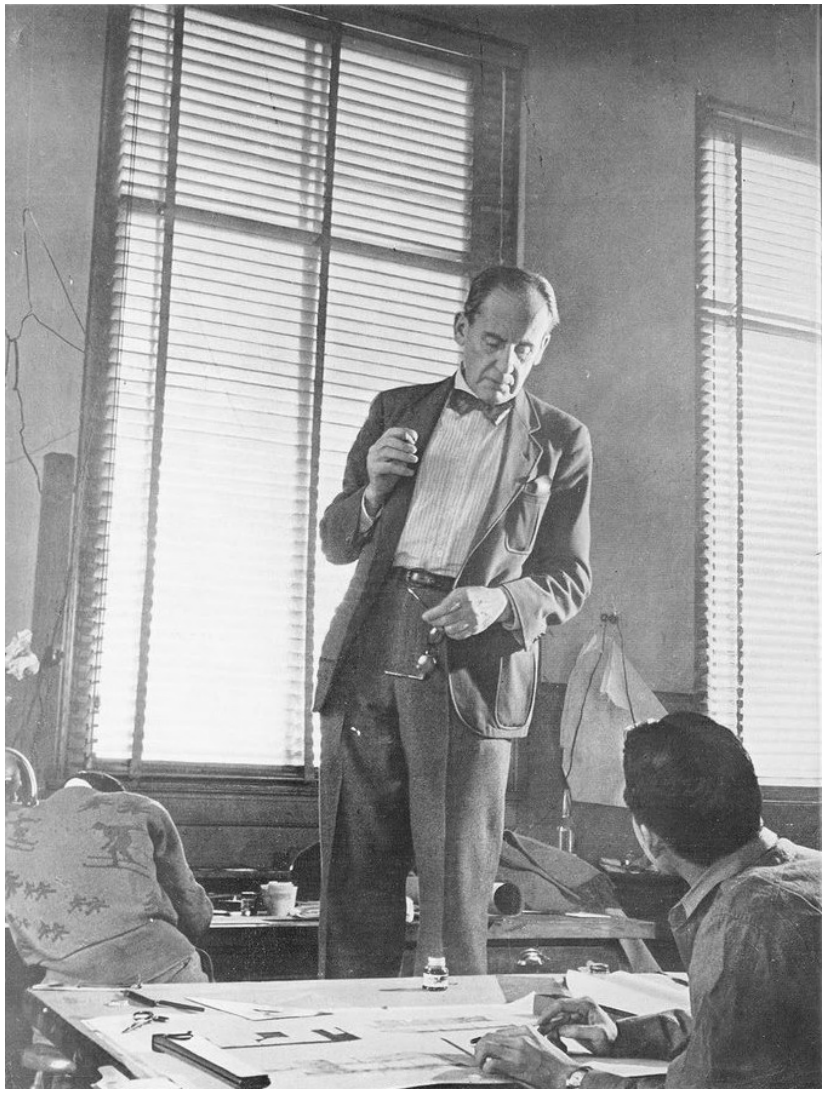

Figure 52. Gropius standing on a stool during a desk crit with student I. M. Pei in the foreground (1950). (Photo by Jerry Cooke, Jerry Cooke photographic archive, camh-dob-013521, The Dolph Briscoe Center for American History, The University of Texas at Austin.)

5.4 What stayed – The studio and its master at the center

The exploration of Bauhaus education conducted in this chapter revealed both similarities and differences when compared to earlier models of design education discussed in previous chapters. On one hand, it highlights the significance of the school's physical and institutional setting. Although Bauhaus principles and ideas often stood in contrast to those of traditional Fine Arts education, the analysis of school settings and their representations revealed key similarities. The school itself functioned as an exemplary place for students—a physical embodiment of the educational philosophies embedded in each curriculum. The settings of Bauhaus in Dessau, just as the École des Beaux Arts, and before that, the earlier Renaissance academies, were to be an example for their students.

On the other hand, at the Bauhaus, there was an attempt to offer an integral approach to design education, which involved students taking part in all aspects of the design process, as well as all aspects of their lives. As Gropius stated in his Manifesto, this idea drew inspiration from the earlier traditions of medieval guilds, where masters and pupils worked in the workshop with all arts and crafts together, and shared all aspects of life and work. In this way, the Bauhaus school sought to operate as a total institution, influencing the whole experience of student training. As a total experience, training, working, playing, and partying became institutionalized practices, and a formal part of the curriculum. This blend of formal instruction and everyday life became part of the idea of studio culture as discussed in the introduction.

After the closure of the Bauhaus in 1933, both instructors and students brought their experiences abroad and particularly in the United States, seeking to adapt and establish similar approaches to design education. Studio-based training continued to be a central component of programs like that in earlier ateliers. However, maintaining an integral approach to education meant that studios began to function more like professional offices, and supported by hands-on workshop training.

At the same time, like the French ateliers had their patrons acting as role models, the teaching of the 'White Gods' in the United States placed particular emphasis on the central role of the master in shaping students' learning. This often led to a highly personalized curriculum, where the identity of the school became closely tied to the vision of its leading figures.

The type of narratives and representations which developed around studio education also supported these ideas on the masters' central role and authority (Figure 52 and earlier Figures).[147] The master standing on a stool and looking down on the student and his work showed an explicit exercise of power and exemplified his uncontested authority inside the studio. Such practices appeared to be more performative than instrumental, also suggesting how studio classes may have differed from professional studio offices.

The commitment to a total, as well as integral, approach to design education found institutional expression as well. At schools like Harvard, for example, previously separated fields like architecture, planning, and landscape architecture began integrating their curricula under a unified design framework. In this context, *design* was taught as one subject which included several disciplines, which also merged different aspects of their professional practices, both artistic, technical, and social.[148]

Studio-based training was to remain central to environmental design disciplines also after World War II, much like it had been in earlier European models. Studios continued to function not just as a space for project work, but also as the cultural and pedagogical foundation of design education.

[147] See for instance *Harvard Alumni Bulletin*; and also see Paul Rudolph, ed., "Walter Gropius. The Spread of an Idea," *L'Architecture d'Aujourd'hui* 28 (1950), https://usmodernist.org/LAH/LAH-1950.pdf.

[148] Joan Ockman and Williamson, *Architecture School*, 103–4.

6. Conclusion: Making studio culture and the transformation of design education

The introduction to this thesis highlighted how the concept of studio culture, as a subject of academic enquiry, is a relatively recent idea in the history of design education, emerging in the second half of the twentieth century. Scholars have advanced assumptions on the roots of design studio education as developing from the settings and practices of individual institutions and contexts in Europe and North America in the nineteenth and twentieth century. Nevertheless, historical investigations on studio culture have remained limited in scope and peripheral to other lines of enquiry.

The aim of this thesis has thus been to study the historical development of design education settings and practices precisely within those contexts and institutions identified by scholars as significant to design studio education, in order to understand their role in shaping contemporary studio culture. Chapters 3–5 examined earlier models of design education from nineteenth and twentieth century, respectively rooted in the French Beaux-Arts (second half of nineteenth century), the English Arts and Crafts (end of nineteenth century), and the German Bauhaus (first half of the twentieth century). Each chapter considered the historical development of settings and practices for training students in different design disciplines. While discussing the characteristics of each context, as well as the differences from earlier traditions, the analysis also highlighted continuities in the settings and enduring training practices that have persisted over time up until the Second World War.

This final chapter provides a synthesis by identifying and tracing distinctive patterns among the previous chapters, as well as between the historical and contemporary discourses on studio culture (as highlighted in the Introduction). The first part (6.1) is a synthesis of Chapters 3–5 and

discusses continuities and adaptations in design education settings and practices across different models and contexts. It examines these through key tropes of studio culture that shaped the way of conceiving and performing design education in the nineteenth and twentieth centuries.

The second part (6.2) introduces the idea of *myth* as a concept providing a more nuanced picture of studio culture as referred to by contemporary scholars and instructors today. It does this by identifying continuities and adaptations in the type of narratives and discourses developed around design education. It discusses how not only the settings and practices of design education, but also their representations and narrations contributed to the definition of myths that characterized the discourse around studio culture.

The third part (6.3) highlights the tensions that arise when these myths are set against the current reality. It discusses how this analysis contributes to a deeper understanding of studio culture and help inform a more critical approach to the education of future designers.

The fourth and last part (6.4) discusses how this thesis opens up several trajectories for future studies within studio culture. It also raises new sets of questions, both on practical and pedagogical levels that suggest the need for further research.

6.1 Framing studio education

The comparison of the different contexts and institutions discussed in Chapters 3 to 5 highlights a set of common features that have characterized design education across different historical periods. Recent studies on contemporary professional education discuss similar characteristics as "signature pedagogies"—distinct "ways of teaching and learning" that prepare students to become professional practitioners.[1] This part of the chapter observes how this concept offers a useful parallel for understanding the continuity and adaptation of certain design training settings and practices over time. These settings and practices continued to characterize design education in the nineteenth and twentieth centuries.

This understanding of the historical development of design education—as a field where certain settings and practices persist over time—contrasts with more recent ones about modern architecture. Tom Wolfe, for example, described Bauhaus instructors' approach, upon arriving in the United States,

[1] Shreeve, "The Way We Were?," 113; see also Shulman, "Signature Pedagogies."

as a "starting from zero"—a radical break from earlier traditions, reflecting a modernist architectural vision.[2] Starting from zero was not just a denial of earlier architectural styles, but stood for a rejection of the academic tradition of fine arts instruction, emphasizing instead hands-on learning, and craft. Starting from zero meant that modern architecture was to be a new starting point both in the design professions and in education. Nonetheless, when looking at training practices and settings of modern design education, they were not at all "starting from zero," but were, in fact, both adapting and continuing previous modes and traditions of design education. The following part introduces, and discusses, these modes that characterize design education in the nineteenth and twentieth centuries. It also shows how these resonate with contemporary western discourses on studio culture.

Studios as spatial settings

There are characteristics of studio pedagogy that are linked to the physical spaces where such training is performed. As we have seen in chapters 3–5, institutions from different contexts showed particular attention to the provision of spaces for the training of students. Architecture schools used to allocate students with individual space and some basic equipment (a workstation like, for example, a desk and a stool in the French atelier) and granting them both flexibility and extensive time to access these facilities. In most cases, the spaces for training were to be spaces where students could linger even outside of classes and training hours. This condition provided students a defined space with extended access, granting them unstructured time for their training, even during evening hours.[3]

These characteristics remained a distinctive condition for the training of students in architecture programs after the Second World War and were generally upheld by educational guidelines discussing studio education.[4] For

[2] Wolfe, *From Bauhaus to Our House*, chap. 1.

[3] As discussed in Chapter 4, the introduction of electric lighting made it possible to extend design and drawing classes to the evening hours, providing work environments with the same standards as during the day hours.

[4] See for example, at the international level, the Congrès Internationaux d'Architecture Moderne (CIAM), promoting a continuing dialogue and communal initiatives across several countries with the aim of defining the uniform standards for design education. "Papers of the Congrès Internationaux d'Architecture Moderne (CIAM), 1928-1970. Gifts of Josep Louis Sert, 1981 and Jaqueline Tyrwhitt, 1982," 1949, Folder B005, Frances Loeb Library, Harvard University Graduate School of Design, https://iiif.lib.harvard.edu/manifests/view/drs:446436046$42i; see also Walter Gropius, "'Blueprint for an Architects Training,' 'Plan Pour Un Enseignement de l'architecture,'" *L'Architecture d'Aujourd'hui*, 1950; In the United States, the discussion on architectural education was also addressed in various reports and guidelines by institutions such as the American Institute of Architects (AIA), the Association of Collegiate Schools of Architecture (ACSA), and respective collaborations boards such as National Council of

example, in the United States, the move toward standardization and functionalism in the postwar era involved the re-organization of design education and the re-arrangement of school facilities. On a more practical level, this was a way to act on the increased enrollment of students and a consequent necessity for arranging training spaces in a more rational and efficient manner.[5] Studio spaces remained central to students' training, as did the need to allocate individual spaces to each student. For example, a report analyzing the state of architecture education in the United States in the mid-twentieth century described how students' individual training settings were, in fact, no different to those of French ateliers over a hundred years earlier:

> Every architectural student, for example, should be assigned exclusive use of an adequate drafting desk including or adjoining ample locker storage, and these must be freely accessible for both day and evening work.[6]

This configuration of individual spaces and equipment for students' personal use represented a continuity with that of ateliers at the École, and later on in those of schools in England and in the United States. Just like at the École's ateliers, desks were for the students an essential prop for carrying out the main part of training, and having access to one of them meant being part of the atelier. The presence of locker storage also provided students with a safe place to leave their goods.[7] This too, could increase the students' sense of belonging and of sharing a common space. Day and evening accessibility to these elements provided students with the maximum flexibility in the use of their working space, just like in those schools discussed in previous chapters.

In the postwar era, the modern trend to guarantee quality through measurable indices, also focused on identifying sizes and characteristics of

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Architectural Registration Boards (NCARB), and the National Architectural Accrediting Board (NAAB.) In 1954, the AIA published The Architect at Mid Century, one of most extensive report on architectural education. Turpin C. Bannister, ed., *The Architect At Mid-Century*, vol. 1 (Reinhold Publishing Corporation, 1954); In the same years, in allied disciplines such as Landscape Architecture, the National Conference on Instruction in Landscape Architecture (NCILA) had advanced similar efforts in providing a comprehensive report and guidelines of landscape design education Stanley White, ed., *The Teaching of Landscape Architecture.* (National Conference on Instruciton in Landscape Architecture, 1953).

[5] See for example Joan Ockman and Williamson, *Architecture School*, 121–27; see also Bannister, *Architect At Mid-Century*, 1:212.

[6] Bannister, *Architect At Mid-Century*, 1:212.

[7] For example, at SLU Ulls Hus, the presence of locker storage for students in Landscape Architecture has been regarded as an added value of studio settings. At the same time, this issue has been raised several times at the SLU Educational Board as unfair to students in other programs.

spaces that favored the performance of educational activities. Some reports even identified the minimum standards for carrying out drafting activities, and classified them from barely sufficient, acceptable, to more than adequate (respectively top, middle, and bottom of Figure 53).[8] The range of individual space noted in such analysis showed full adherence to the kind of settings available in the institutions of nineteenth and twentieth century under study (Figure 20, Figure 21, Figure 34, Figure 36, and Figure 51). While crowded ateliers at the École des Beaux Arts in Paris might have provided students with barely sufficient spaces (Figure 20), other schools like technical schools in England (Figure 34, Figure 36, and Figure 37) could provide more than adequate spaces for training. Though varying in size, such spaces continued to supply the minimum conditions for students to work on their projects and to operate their drafting tools and materials.

[8] See for example the report from the National Architectural Accrediting Board (NAAB) in Bannister, *Architect At Mid-Century*, 1:213.

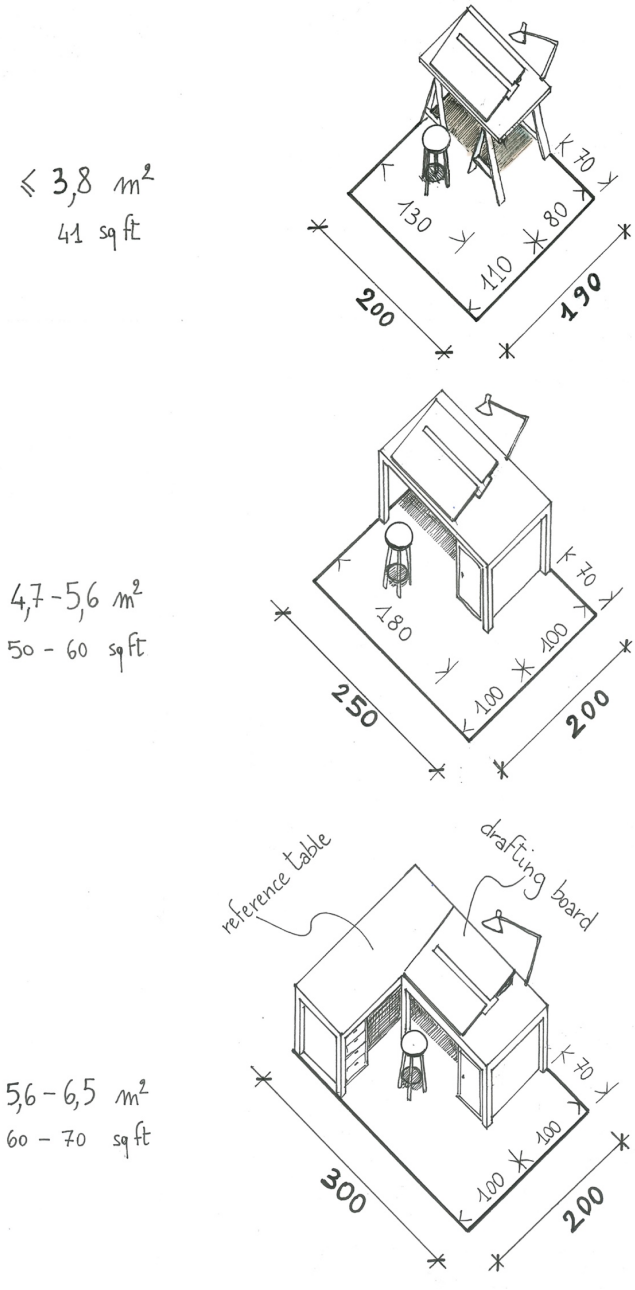

Figure 53. Ranges of drafting space per students from NAAB report. (From: The Architect at Mid-Century, p. 212 – 213; Source: hathitrust.org; Drawing and graphic elaboration by author.)

Training facilities such as studios and workshops occupied large portions of school buildings. As a sum of students' individual spaces, their arrangement also received particular attention. These were the places where students would spend most of their training time. The shape and layout of studio spaces were at the discretion of the individual schools and often became a distinctive feature of their respective institutions.[9]

As well as what they did at their desks, students' learning experience was also affected by their surroundings.[10] The spatial analysis of school settings conducted in Chapter 3–5 revealed that some institutions were also a physical manifestation of the principles included in their respective curricula. These institutions sought to provide exemplary places for their students, spaces from which they could learn from through observation, copying-by-drawing, or emulation.

Spaces could also reinforce certain social values and teaching conventions. Large open drafting rooms with many students could lead to unavoidable noise and distractions, emphasize hierarchies and atmosphere of collaboration or competition, but they could also provide the whole camaraderie experience.[11] For example, Fine Arts ateliers, discussed in Chapter 3, grouped together young students with old students. In many cases, students revealed how their learning depended mostly on working next to their older classmates (*anciens).* Other arrangements, like those found at Arts and Crafts schools, or at the Bauhaus, promoted interdisciplinary exchange. In these cases, students from different disciplines, training next to each other in the same workshop or studio, could benefit from the diverse experiences and skills of their classmates (Chapters 4 and 5).[12]

Studios as training method

While training activities varied among disciplines and contexts, there are characteristics in the pedagogical approaches to design education which remained unvaried overtime. Training spaces like studios, ateliers, and drafting rooms (Chapter 3–5) were the closest approximation to their

[9] See for example the layout of the Bauhaus school in Dessau, and the central position of the Architecture department discussed in Chapter 5.

[10] See also discussions in White, *Teaching of Landscape Architecture*, 86; Sarah Williams Goldhagen, *Welcome to Your World: How the Built Environment Shapes Our Lives* (Harper Paperbacks, 2020), chap. 5.

[11] Bannister, *Architect At Mid-Century*, 1:213.

[12] This configuration of interdisciplinary training spaces continued to characterize certain schools. See for instance the GSD at Harvard Gabrielle Patawaran and John J. Aslanian, eds., *The GSD. Guide to Gund* (Puritan Press, 2012), 11.

respective equivalents in practice. They resembled an ideal bridge from school to professional practice combining both academic and professional qualities. Nonetheless, they were also distinct, their "spiritual atmosphere" contributed to keep their "intellectual independence," in so doing, becoming opportunities to advance knowledge.[13]

The type of training varied greatly according to the context and the discipline. While Beaux-Arts traditions could be more oriented toward imparting skills like drawing, drafting, and painting, technical and applied art schools also employed more manual training with various crafts. In all cases, students engaged with practical hands-on training, and their activities were always oriented to the "acquisition of a competence to perform."[14]

The core of the training method has always been project-based, involving some sort of 'design problem' and a solution to the problem to achieve. Again, major distinctions appeared among different institutions and traditions in their approaches. While Beaux-Arts training mainly focused on the performance of design projects on paper to competitions, later institutions like Arts and Crafts schools and the Bauhaus also aimed at strengthening students' understanding of making and building with different materials and in learning the various phases of a building process.

Much agency was left to the instructors who had to steer students' advancements in their process. The former had to be knowledgeable experts in their practices, but also possessing good teaching skills. The instructor had to be a "good coach," able to help students reflect over their actions and improve their performances and not least establish a trustworthy interaction with them.[15]

Unlike measurable characteristics such as spatial requirements and the teacher/student ratio, coaching is subject to the instructors' personality and their pedagogic competence. Although different contexts and institutions have different standards for design education, the way students are trained has always been affected to some degree by the instructor's personal approach. In most cases, ateliers, studios or even entire schools remained linked to the identity of their masters' personalities.

Critiquing was the way teachers used to impart instruction to students during their training—through the development of their projects. This aspect

[13] See for instance debates in "Papers of the Congrès Internationaux d'Architecture Moderne (CIAM)," fol. 46.
[14] Schön, *Design Studio*, 5.
[15] Schön, *Design Studio*, 28–30, 78.

of teaching was primarily imparted on an individual basis and influenced by the teacher' temperament and personality. This idea about the role and agency of the teacher continued to characterize design education in the contexts and institutions under study. Also, in the postwar era, several educational guidelines[16] remarked these aspects highlighting the "active personal contact between master and student."[17] A description from the report on architecture education in the United States describing the relationship between teacher and students in mid-twentieth century shared the same characteristics of those analyzed in earlier institutions and contexts:

> Due to the intimate character of criticism in design, the critic has a unique opportunity and obligation to stimulate the student's imagination, taste, judgment, resourcefulness, and desire for professional quality in his work. With beginning students, the instructor should feel free to demonstrate his precepts by actual sketches, but, as quickly as possible, criticism should be confined to discussion of principles, evaluation of the students' success in applying them, … A skillful critic can make ingenious use of the Socratic device of answering questions by asking counter-questions that will lead the student to arrive at his own answer.[18]

Again, the modern trend to guarantee quality through quantitative parameters in design education ensured teaching efficiency by defining precise students/teacher ratios and the average time per students per week to dedicate to individual critiques.[19]

Beside criticism given by instructors, students training has always been characterized by peer learning—learning from those who train next to the individual student. This feature, just like others, has changed according to the contexts and the type of institution. In the French ateliers, peer learning could arise from students' collaborating with each other when preparing for a school competition. The older students (*anciens*) helped the new students (*nouveaux*) by critiquing their projects. In exchange, the new students supported the older students in preparing their final projects for the competition (Chapter 3). Working together on a same project, or tasks, could facilitate the exercise of in-class reciprocal criticism. Peer learning could also

[16] See for example those listed in [4]

[17] "Papers of the Congrès Internationaux d'Architecture Moderne (CIAM)," fol. 46.

[18] Bannister, *Architect At Mid-Century*, 1:198.

[19] Gropius, "Blueprint for an Architects Training," 74; Bannister, *Architect At Mid-Century*, 1:198.

occur when students competed with each other to achieve the best results and acquire knowledge by motivating each another. In other cases, such as in Arts and Craft schools or the Bauhaus, peer learning could arise from students of different disciplines working together in the same spaces and exchanging knowledge about their expertise.

Like in all design problems, the training phase always ended with the judgment of students' outcomes performed by a dedicated jury. However, the ways to perform these assessments varied greatly depending on the institutions. While in earlier Beaux-Arts tradition a jury assessed students' projects behind closed doors, the assessment phase gradually became a public event where students were asked to explain their project ideas (emulating the presentation to a client) and defend them before the jury.[20]

Nonetheless, as part of the method, such training activities generally occupied only some of the time that students would have spent in these environments. As discussed in the next section, studio learning also concerned other aspects of students' lives.

Studios as total institutions

In the previous chapters it emerged that the settings of students' training (like for instance the Bauhaus in Dessau) could often combine characteristics of total institutions. To recall Goffman's definition, total institutions like asylums and cloisters are both places of residence and work,[21] where "all aspect of life are conducted in the same place and under the same single authority" and "member's daily activity is carried on in the immediate company of a large batch of others."[22]

As discussed earlier, training settings like studios, ateliers, or other school facilities often allowed students to linger beyond class hours. Although the parallel with Goffman's concept might seem forced, it works well when considering studio life to the extreme, such as in the days and weeks leading up to students' project deadlines. In those cases when students finalized their project toward deadlines, the spaces of training became also the space for sharing meals, jokes, and overnight sleep, in the company of a bunch of other fellows (Chapter 3).

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[20] Bannister, *Architect At Mid-Century*, 1:199–202.

[21] Goffman, *Asylums*, xiii.

[22] Goffman, *Asylums*, 6.

A common characteristic among these settings for training is that they provided extensive unstructured time with a relative flexible schedule, but in a controlled environment. As in total institutions, students' experiences could also encompass the sharing of rules, social rituals, and practices, beyond mere training activities. They could share a sense of identity through common habits, the use of jargon, and the same dress code.

This relationship with total institutions is also confirmed by the ways students and instructors have discussed their schools and experiences. In most cases, they discussed training environments as providing this total experience. On the one hand, the spaces for training could resemble homey environments, quasi-domestic places that also allowed for leisure time (Chapter 3.1, and 3.3). On the other hand, they also resembled spaces for work that looked like those in the respective professional practices. In some cases, discussed in Chapter 4, they were also named after their equivalents in practices as "offices," or "workshops." Or like at Bauhaus Dessau, the spaces for training, just like those of Medieval guilds, were also workplaces that received real working commissions.

These characteristics were not only common to the institutions discussed in the previous chapters. Also, after World War II, educational guidelines valued the quality of studio settings for comprising areas for functions other than mere individual training. These areas included office-like spaces for individual and collaborative training, as well as lounges and recreational areas that could facilitate informal relations among students and between faculty members and students (Figure 54).[23]

[23] See for instance Bannister, *Architect At Mid-Century*, 1:214; White, *Teaching of Landscape Architecture*, 88.

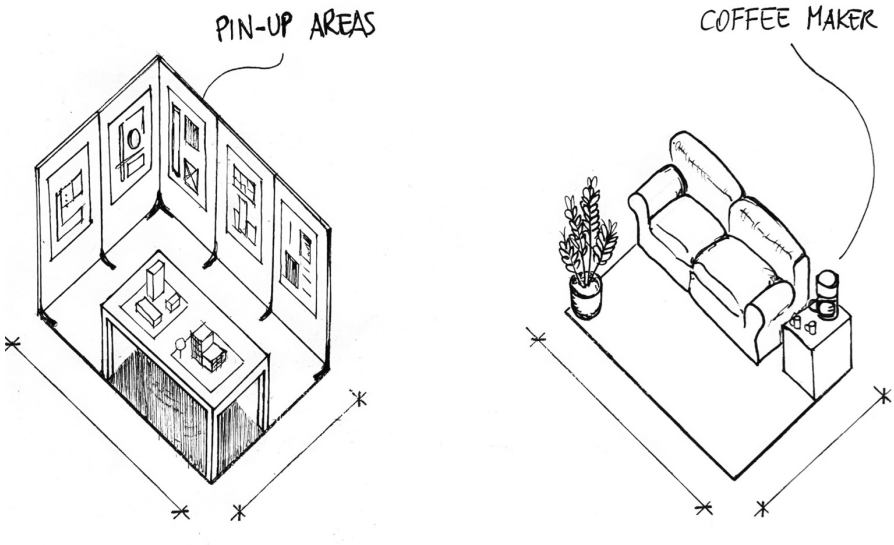


Figure 54. Examples of additional functions in studios: pin-up areas for project drawings and three-dimensional models (left), and studio lounge area with couch, plants and coffee maker (right). (From: Bannister, and White publications; Drawing and Graphic elaboration by author.)

Moreover, integrating training spaces, such as studios and workshops, with the rest of the school's facilities fulfill the organization of these institutions. In a mid-century report on the teaching of landscape architecture by the American Society of Landscape Architects (ASLA), professor Stanley White provided a schematic representation of how a school in the mid-twentieth century could combine their various programs and respective facilities and could collaborate as a total institution (Figure 55). The title "Seven Lumps of Sugar" reads as a homage to John Ruskin's *Seven Lamps of Architecture* (1849), though with a playful and subtle architectural in-joke.[24] While Ruskin's *Seven Lamps* was a statement of the principles anyone should abide by to reach good architecture, White idealized a seven-part scheme which could be followed to compose any art school where the various program "lumps" could share their facilities and work together like in a total institution.[25] Even his original caption revealed a hint of irony, suggesting how easy it should have been to establish

[24] John Ruskin, *The Seven Lamps of Architecture* (Smith, Elder, and Co., 1849).
[25] White, *Teaching of Landscape Architecture*, 86–88.

collaboration among different departments within the same school. The subject related "lumps" departments—Architecture, Landscape Architecture, Planning, Art, Drama—work together around a same core of facilities that allow students to find everything they needed without leaving the building. The terrace unit on *pilotis* (top of figure), that quotes Le Corbusier, also recalled the architect's famous project *Unité d'habitation*, a building typology that was developed to provide housing and facilities for both work and leisure, like in total institutions. Together with the terrace and the garden (bottom of figure) for leisure, the scheme provides other facilities that could be shared like exhibition spaces, and cafeterias. Interdepartmental libraries, most important products of the pre-digital era, could constitute a gateway to access large number of visual materials, such as photographs, images, drawings, projects, contained in both books and magazines. Working as separate sections from the central university libraries, they as well allowed students to find everything they needed to support their training inside the same building.[26]

[26] Bannister, *Architect At Mid-Century*, 1:214.

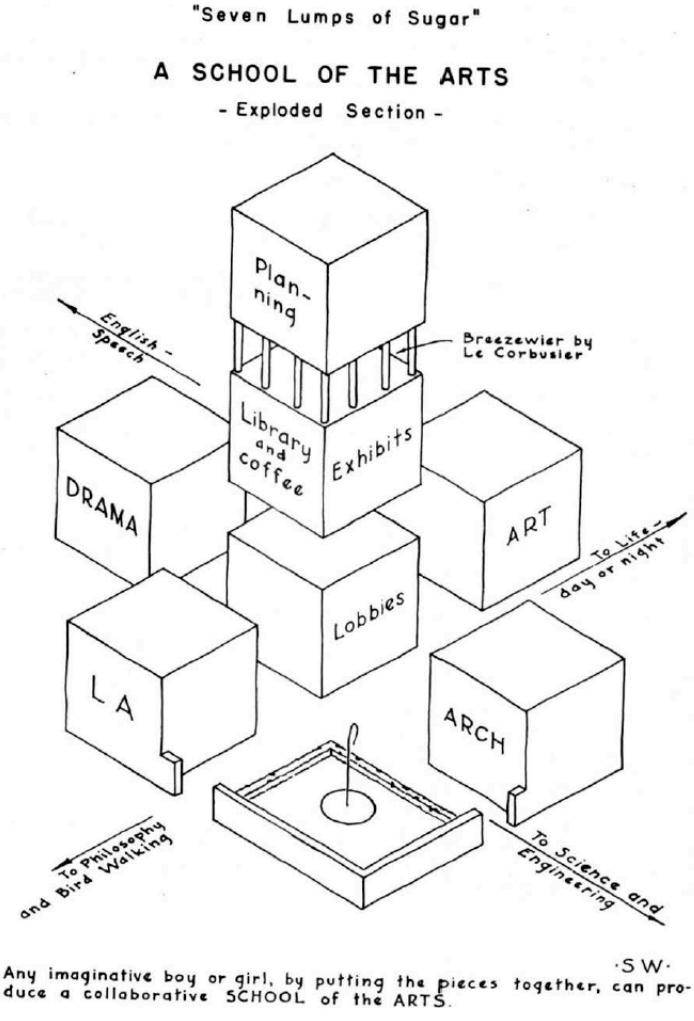


Figure 55. Schematic representation of the various parts composing 'a school of the arts.' (From: Stanley White (editor), The Teaching of Landscape Architecture*, 1953, p. 88)*

This way of representing training spaces like studios, or even entire departments or schools, as providing students with settings for a whole life experience like that in total institutions feeds into contemporary discourses around studio culture (Introduction).

For example, the idea that studios are for students like a "home-away-from-home" reported in the Introduction constitute a continuity in this history of studio culture. The perspective of studios as combining both

formal and informal spaces for training recalls that of earlier institutions such as those discussed in the previous chapters. Of these institutions, the case of Bauhaus Dessau showed the most evident attempt to regulate these informal settings and incorporate them into the school's programs since the publication of the Bauhaus Manifesto.

6.2 Narrating studio education: The myth of studio

As discussed in the introduction, studio culture is expressed through, and consists of, settings and practices carried out in design studios. Chapters 3–5 analyzed how their development has been characterized by both continuity and change. Settings, just like practices, persisted and adapted to new contexts, social conditions, as well as technological development over time. Moreover, what emerged from the analysis in Chapters 3–5 is that the types of narratives used to represent design education also influenced the ways of understanding, and shaping, its culture. No less than practices and settings, representations shaped the discourse around the culture of studios. This second part of the chapter suggests that the ways of representing what happened in studios, ateliers, drafting rooms, and workshops also persisted and changed over time, influencing how studio culture was generally discussed and handed down. The concept of 'myth' as conceived by French literary theorist Roland Barthes helps deepening the understanding of studio culture by introducing new layers of meaning in its settings, practices, and representations.

Studio culture or studio cultures?

As discussed in the introduction to this thesis, the discourse on studio culture began to take shape in the 1970s and 1980s. The concept of studio culture has been influenced not only by its settings and practices, but also by how these have been represented and narrated. Just as educational settings and practices have changed over time, so too have the narratives surrounding them. While some narratives have persisted, others have evolved, vanished, or reemerged in new forms, highlighting the diversity of studio cultures across time and place. This section expands on the multiplicity of studio cultures and sets the stage for the later discussion of how they have been represented and mythologized.

Chapters 3–5 showed how different contexts were associated with distinct (and at time fictional) narratives of design education. While the École des Beaux-Arts model was linked to the figure of the French artist competing for the prestige of the Prix de Rome, other contexts of design education offered different narratives. For example, mid-nineteenth century England could be associated with Charles Dickens's fictional character Martin Chuzzlewit, a middle-class exploited young man undergoing training by working at an architect's office. Later contexts like that of the post war in the United States fitted well with the idealized figures of the "white gods," the Bauhaus professors and students who moved to America prior the war.[27]

Another role model in the United States also emerged in the figure of the architect protagonist of *The Fountainhead*, the 1943 novel by American writer and philosopher Ayn Rand.[28] The protagonist, Howard Roark, embodied the independent modern architect who refuses to conform to traditions, and acts according to personal vision and moral integrity.

These different contexts also reflected diverse approaches to design education, each developing their own tradition, or model. For example, Chapter 5 discussed how the Bauhaus instructors, particularly Gropius, explicitly sought a break from the earlier model of the École des Beaux-Arts, claiming a complete separation and a new approach for practicing and teaching design.

With this perspective in mind, one can begin to identify distinct cultures of design education shaped by their specific contexts. When zooming in and out from different institutions and time periods, it is therefore possible to understand studio culture as a multitude of different cultures. A closer look at individual institutions reveals further variations—not only from one institution to another, but also within the same institution, between instructors, and across generations of educators and students. These internal differences suggest a more fluid understanding of studio culture, one that evolves over time, across settings, and even through the practices of individual instructors.

The narratives characterizing studio culture can be further understood through the interplay between various elements that shape design education—among them the relationships between students and educators, the pedagogical approaches, and the spatial and material conditions of studio

[27] See discussion in the previous chapter, about Wolfe, *From Bauhaus to Our House*.

[28] Cuff, *Architecture*, 1, 117; Ayn Rand, *The Fountainhead* (The Boobs-Merrill Company, 1943).

practice. For example, the representation in Figure 56 was given to the author after an EDRA conference in New York in 2019 by professor of architecture Paul Amatuzzo, who had earlier received it from his colleague Jonathan Friedman. Friedman created this diagram in the 1980s, portraying a family tree of design educators. The diagram expresses a strong consciousness about the interweaving generations of design educators, as well as awareness of their shared roots. Friedman gave the drawing to Amatuzzo when they were colleagues at the University of Kentucky. Although they had different training paths (the latter was a Cooper Union graduate while the former studied at Princeton) it was enough to follow the family tree one generation backward to see their immediate connection to common educators.

Unfolding the family tree of design educators along a timeline reveals an awareness of the structural relationship between master and pupil that has long characterized design education and its culture. This relationship suggests a more nuanced idea of studio culture, where settings and practices performed by educators and their students in studios were always informed by their previous generations—the ways they experienced design education with their former instructors.

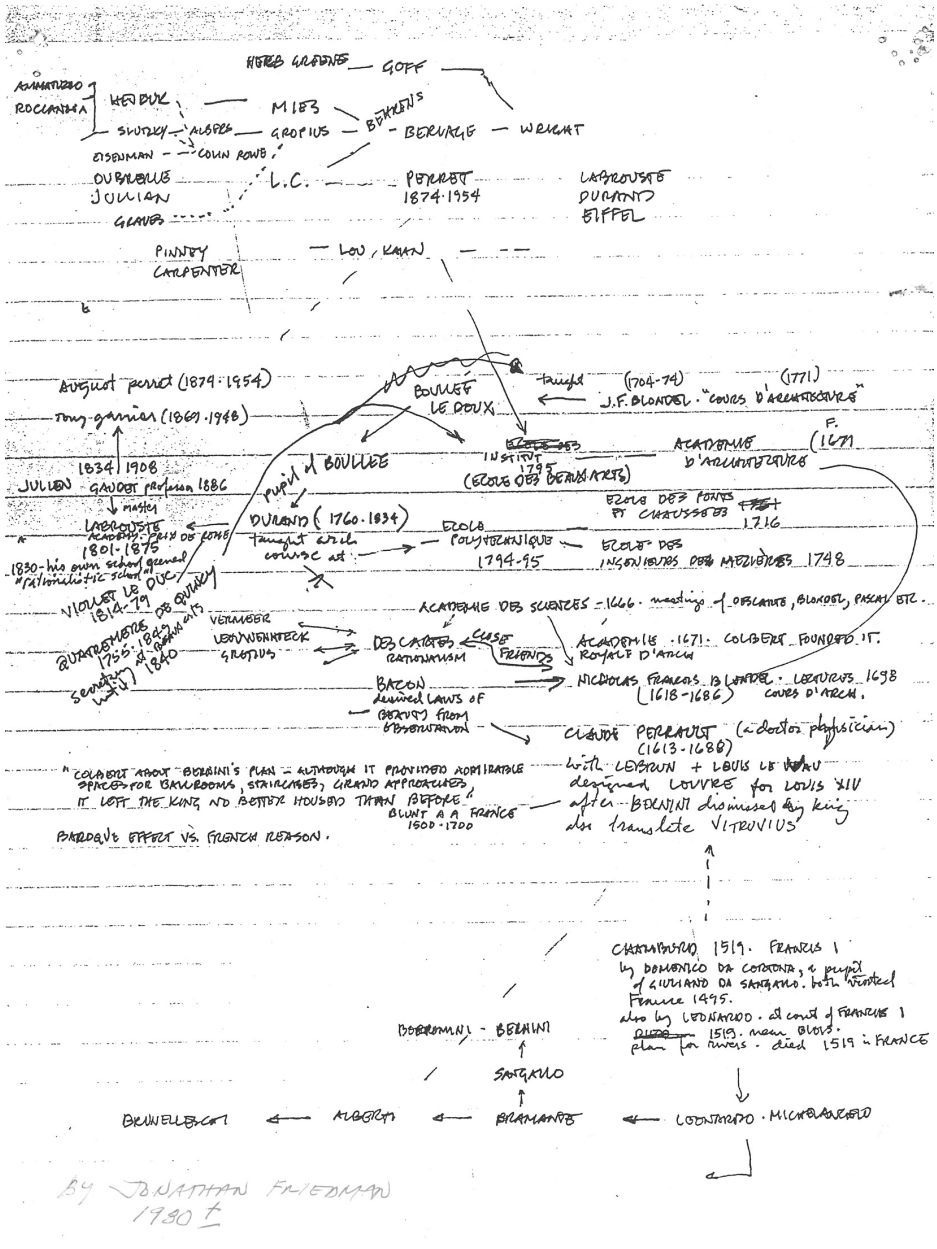


Figure 56. Design Educators' Family Tree (from Brunelleschi to Amatuzzo). (Drawing by Jonathan Friedman, ca. 1980, Original b/w copy; Courtesy of Paul Amatuzzo.)

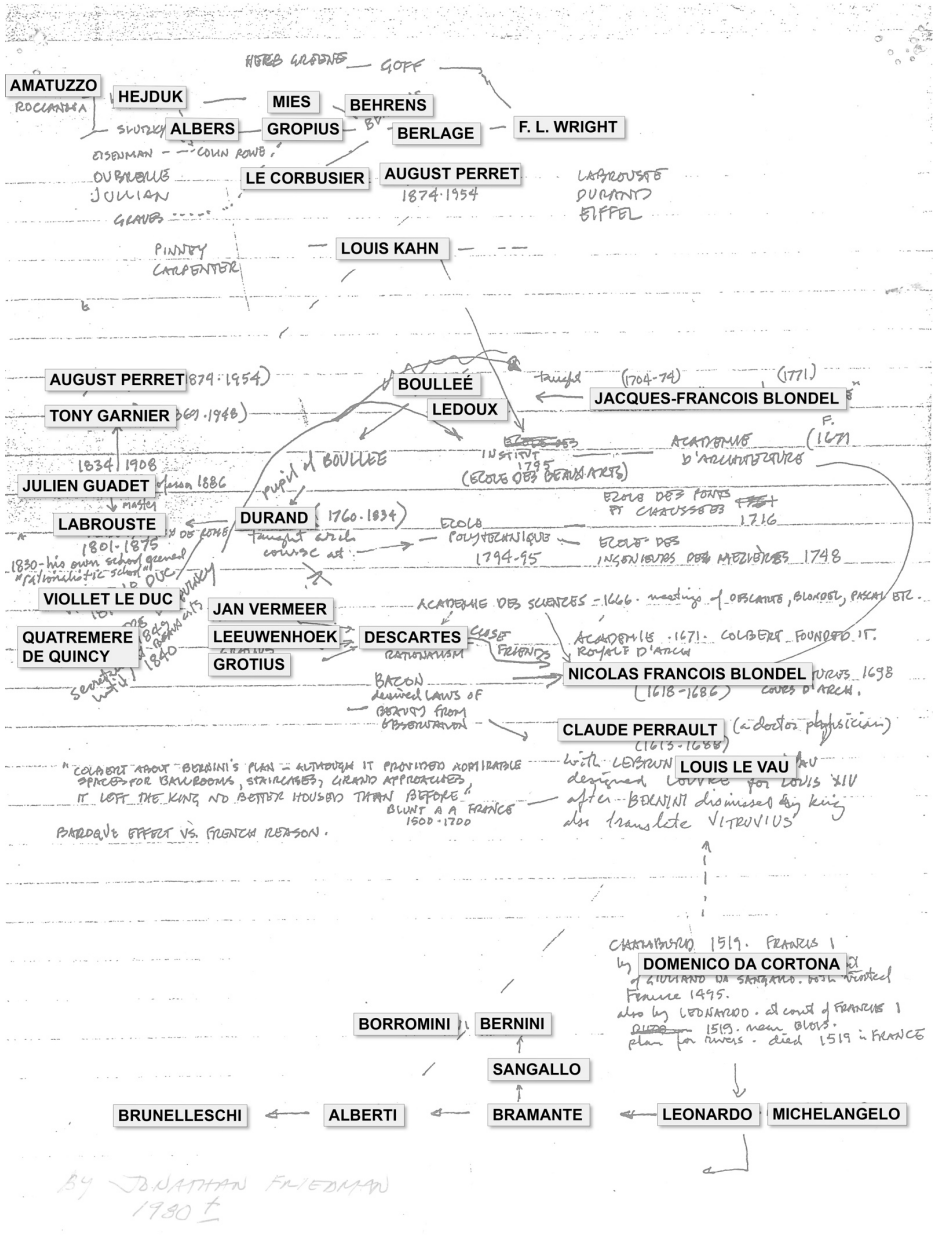


Figure 57. Design Educators' Family Tree (from Brunelleschi to Amatuzzo). (Drawing by Jonathan Friedman, ca. 1980; Edited, with main names highlighted by author.)

But why would someone produce such an image? To what end? And for what audience? And how does it contribute to the making of studio culture? The drawing of an educator's lineage, roughly sketched on a piece of paper, could represent more than just one's exercise of memory to leave proof of what one had studied back in architecture school. The roughness of the diagram, with strikethrough text and deleted connections, suggest that it was a first draft, perhaps an impromptu idea drafted in one go, therefore not a formal document. Still, it seemed to hold great importance for the owner. The signs on the upper corners, probably left by pins, suggests that the sketch had been reserved a visible spot up in a tackboard. The number of signs also suggest that it had been removed and replaced several times.

The document was charged with some memories worth remembering. It most certainly held great importance for professor Amatuzzo who remembered in a recent conversation: "This is him [Jonathan Friedman] tracing all of us, you included! So, here I am [pointing at the diagram]. And I hailed from Slutzky and Hejduk, and they were connected to Mies and Gropius and so on…and you keep going until you realize we are all connected to Michelangelo and Brunelleschi."[29] And as he continued, he pointed the attention at the genuine connections of all the teachers in the diagram: "They were connected directly! Not by idea, but through personal contact! They were teachers, these were their teachers, these were theirs, and so on…"[30]

Such images and stories operate as symbolic representations of power within the discipline: they establish legitimacy, reinforce hierarchies of authority, and position certain pedagogical traditions (such as the long chain of master-pupil relationships) within an established cultural lineage. The document does not only reveal one teacher's consciousness about design education genealogy, but it also carries meaning about some shared sense of identity and belonging to a same culture. Amatuzzo remembered showing the diagram to the students and admitted that it always succeeded in amazing them, thrilled to see themselves directly connected to big masters of the past. Stories like this one serve to legitimize both teaching authority and pedagogical traditions, while offering students a narrative of belonging to an established and prestigious heritage. In contrast to the idea of different cultures, this represents an act of distinction and an attempt of defining a

[29] Passage from a conversation with architect Paul Amatuzzo.

[30] Passage from a conversation with architect Paul Amatuzzo.

certain group of people sharing the same heritage and lineage. In his *The Favored Circle*, Garry Stevens discusses how this "structure of master-pupil chains" also adds on the mere imparting of skills, creating social distinction within the discipline and ultimately influencing design education.[31]

By examining the individual contexts of each chapter and comparing them, one can observe this dual perspective of studio culture: one that interprets it as a shared characteristic of an entire discipline or profession, and another that recognizes multiple cultures as a marker of distinction among individual schools and teaching traditions. But there are also two other common aspects shared among these narratives of design education.

The first is that, from the family tree of design educators and fictional narratives like Martin Chuzzlewit and Howard Roark, a predominantly masculine idea of the culture associated with design education emerges. All these narratives reinforce a male-dominated view of the discipline. The family tree does not highlight that the names in the diagram are only of white men—canonized male figures and institutions in the European and Anglophone world. In this genealogy of design education, only male heirs appear, perpetuating the patriarchal lineages inherited from the medieval guild system.

Stories like that of the family tree could enrich the lived experiences of students in studios. They become symbolic expression of power within the studio classroom, and they also contribute to the making and spreading of a certain culture. Ultimately, each instructor, like professor Amatuzzo, carries forward in their teaching the memories, experiences, and anecdotes from their ancestors—whether explicitly acknowledged or implicitly embedded in everyday practice. And here lies the second common aspect in these narratives. These stories and narratives are built upon the lived experiences of instructors and students, so they carry along values and meanings from the past. Analyzing such stories produces knowledge about how studio education is represented over time, revealing the type of narrations through which authority, power relations, continuity, and belonging are constructed and handed down. As discussed in the next section, stories, just as much as settings and practices, influence the formation of studio culture.

[31] Stevens, *Favored Circle*, 3.

Studio culture as myth

Studio culture is more than what happens inside studios. The analysis of settings and practices in the previous chapters reveals how the culture associated with design studio education is not only a result of its settings and practices. Rather, it is also shaped by the discourse surrounding them—how they are represented, narrated, and communicated.

Design education is often spoken about and represented in ways that naturalize its values and routines, making them seem like timeless and self-evident truths, instead of historically constructed. The French literary theorist Roland Barthes defined this process as *myth*.[32] According to Barthes, *myth* is a "type of speech," a "mode of signification" that associates representations with a "second-order semiological system" (Table 5).[33] This concept indicates how signs (for example language, or images) can themselves become signifiers within a larger, more abstract system of signification adding new layers of meaning. Consider, for example, the dove, or the olive branch. These symbols are commonly used to represent peace, though this association stems from specific cultural and religious histories rather than any natural connection between the bird, the branch, and the concept. Representations could function as myths when they attach additional layers of meaning to ordinary images, objects, or practices, and when these cultural constructs are presented as natural and inevitable.

Table 5. Barthes's model for understanding how myth works in language using the semiological structure framework. In this framework, any sign is made up of a signifier and a signified. But a sign, as a whole, could also become the signifier of a second, larger, system of signification. (see Barthes's Mythologies p. 113)

Language	Signifier (The literal object, word, or image)	Signified (The concept/idea it denotes)	
Myth	Sign (1st order) (Becomes the signifier for the myth)		Mythic Signified (The broader cultural/ideological concept that the myth conveys)
	Myth (2nd order sign)		

[32] Barthes, *Mythologies*.

[33] Barthes, *Mythologies*, 107–13.

Following this definition, the ways of representing settings and practices of design education could become myths, according to Barthes. Myths are a type of message, a way of speaking about the studio that provides further signification to terms, objects, and practices.

For example, the concept of myth can help reveal how certain ways of thinking and training in design studios are naturalized—for example, using jargon passed down through generation of students and teachers. To naturalize in this context means to present cultural or historical constructs, like jargon, as if they were natural, inevitable, or unchangeable—often in ways that support dominant ideologies or power structures. Terms like *charrette*, *esquisse*, *jury*, *vernissage*, which are still of common use in contemporary studios but meaningless to the wider public, do not only characterize an element of distinction among design students and teachers. According to Barthes, they could also convey further significations. The term *charrette* originally indicated the Parisian handcart with which students used to carry their projects from the atelier to the École for the last-minute submissions prior the deadlines (Chapter 3). In more recent times, although students did not need handcarts to submit their projects, the term *charrette* remained of common use to indicate the last days prior to project deadlines.[34] In these cases *charrette* does not refer to the physical object or its function as a handcart. Nor does it only refer to the time before the deadline. Rather, it carries other layers of signification. The use of the term could hide in itself the expectations of intense overwork, long hours, exhaustion, and competition. It could also make these characteristics feel like natural timeless values rather than historically specific conditions.

Myths do not only work with written and oral speech but could also be attached to other forms of representation—images like drawings or photography, or objects.[35] The ways departments and institutions choose to represent studio life and studios in their publications highlight the presence of certain myths—"modes of signification."[36] For example, the drawing portraying students with their patron in Chapter 3 or the photos depicting professor Gropius surrounded by his students in Chapter 5 reveal much about the type of relationship and hierarchy that was expected in studio settings. Such pictures seemed to idealize the prophetic presence of the master as a

[34] See for example, Bannister, *Architect At Mid-Century*, 1:188; and also Chafee, "Teaching of Architecture at the École," 92.

[35] Barthes, *Mythologies*, 107–8.

[36] Barthes, *Mythologies*, 107.

messiah and his students as his disciples, where the master appears as the sole creator, source of truth and vision. These representations do not only portray a historical situated fact, but they also convey this type of teaching-learning dynamics as inherent aspects of design education.

Figure 58. (left) Critiquing session between professor and student at the École des Beaux Arts. (Section from figure in Chapter 3.)

Figure 59. (right) Gropius (in the center) surrounded by students in a critiquing session in his studio at GSD. (Section from figure in Chapter 5.)

Objects, such as the desk and the stool, could also be used to convey mythical signification. Their representations could often hint their individual personal attachment to the single student and its training (Figure 60). The desk is often represented as a space available at all hours, particularly at night, when it is distanced from the bustle of crowded daytime hours.[37] This mode of signification underlines the idea that the designer's creative process is an act of individual endeavor that requires commitment and passion, also for working long hours overnight.

These types of myths have also continued into more recent times. The way of representing students working alone at their desk could often be associated

[37] See for instance the smoking candles indicate that the student is probably working overnight in the dark.

with them having to work at night. For instance, Figure 61 shows how architecture historian Dana Cuff portrayed the training of a student in her history of architectural practice.[38] Pictures such as this do not only convey the message that studio desks are for individual use, and that they could be used beside class hours and in this case also at night (first order of signification). They also have a second mode of signification. In this case, the picture shows an idealized representation of the student at work, which implies how success is driven by devotion to the discipline and individual solitary pursuit, but in this way also justifying hard work, overwork, and exhaustion as part of the regular training. This way of reading myths of design studios in different contexts could also highlight how these kinds of representations persisted over time.

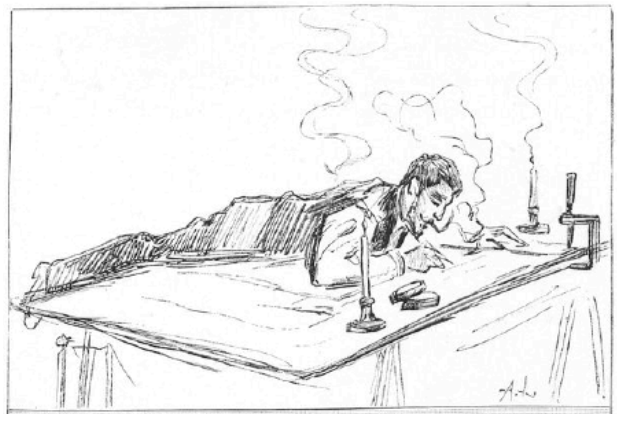
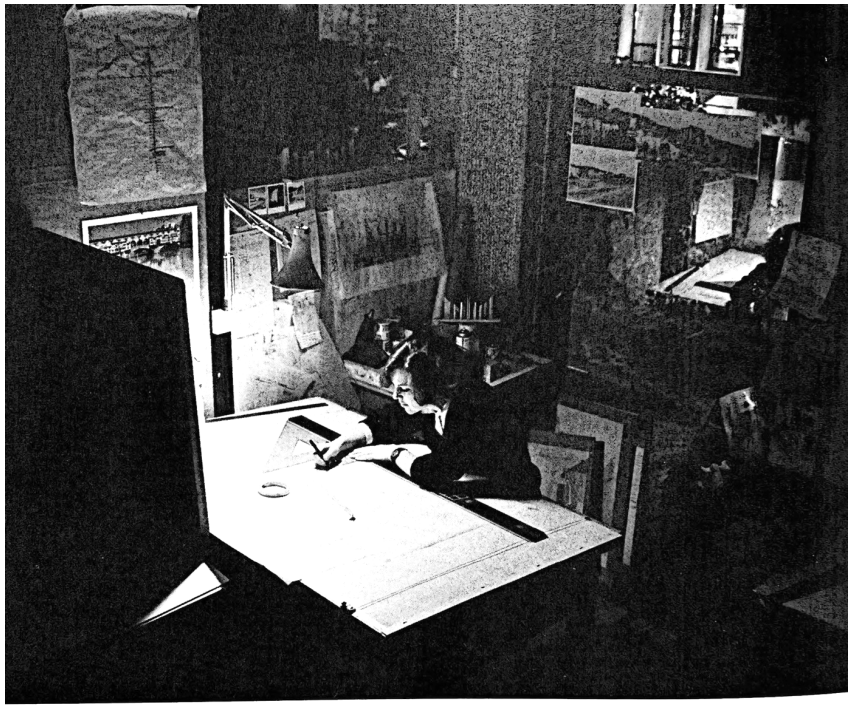


Figure 60. Student draws at his desk by candlelight at the École des Beaux Arts. (Section from a figure in Chapter 3.)

[38] Cuff, *Architecture*, 136.



4.9 While few architects fully escape working for or with others, creative isolation is a kind of ideal. Shown here is a student who has found that late-night hours are one way to achieve privacy.

Figure 61. A way to depict the individual student at work that also underline the mythical image of the genius designer who pursues her creative endeavour at her desk alone in the middle of the night (bottom-left text is the original caption from Dana Cuff's study). (From: Dana Cuff, Architecture*, p. 136; © 1992 Massachusetts Institute of Technology. All rights reserved.)*

Contrary to the idealized vision of the student working at her desk at night (Figure 61), representations of studio life in daylight highlight the presence of other myths attached to studio culture. Daylight reveals aspects of community life among students. There is a tendency to describe the spaces for training emphasizing their characteristics as homey environments—quasi-domestic spaces—that allow students to linger beyond their training duties. The activities they could perform in these spaces are more than just mere design training by drawing and making models (Figure 62 and

descriptions discussed in Chapter 3). Clutter and general messiness also contributed to preserve the informal tone of these spaces.

Again, representations of French atelier life (like that in Figure 62) are not distant from those included in Cuff's book and portraying more recent design studios in the second half of the twentieth century (Figure 63, and Figure 64).[39] Both the configuration of spaces and students' outfit, adhered to the character of informality one would encounter in those studios. The presence of home furniture like a couch (bottom left of Figure 63) and a fridge (top right of Figure 64), together with general clutter in the room, confirm these assumptions, and communicate how students should live and perceive the experience of those spaces.

Figure 62. Photo portraying students inside a French atelier in an informal setting at the turn of the century. (From: Drexler, The Architecture of the École*, p. 91; Figure included also in Chapter 3.)*

[39] Cuff, *Architecture*, 64, 120.

3.3 This SCI–ARC studio captures many aspects of studio life—students working during off hours, the couch for napping during charrettes, individual work areas, chairs to pull around for a pin-up, and general clutter.

Figure 63. A photo portraying the informal character of shared communal life in studios. The original caption stresses the presence of props like a "couch for napping" (bottom left) that should contribute to create a homely environment, beside making students life easier. (From: Dana Cuff, Architecture*, p. 64; © 1992 Massachusetts Institute of Technology. All rights reserved.)*

Cuff's photograph highlights that studios are more than just spaces for work, emphasizing their potential to host other activities such as eating and napping, and to serve as livable spaces for extended periods if necessary. The effect of this kind of representation is to make its message seem natural, so that the reader accepts it as an expected and inevitable truth. Photographs of couches indicate that studios could be homey and informal environments. At

the same time, however, they also imply that students will eventually need to take naps due to working long hours in the lead-up to submitting work.

4.3 Typical studio scene, showing students making models for a midterm critique.

Figure 64. A photo portraying the informal character of studios. Like couches, the presence of a fridge (top right corner), food and beverages on students' desks aims to communicate the homely and friendly environment of studios, which can become like a second home to the students. (From: Dana Cuff, Architecture*, p. 120; © 1992 Massachusetts Institute of Technology. All rights reserved.)*

Although studio settings strive to put students at ease, studio work is always expected to be hard on them. Coffee becomes one of the myths that utters this message. It was a social ritual for students at the École des Beaux Arts (Chapter 3), and it was also part of the design identity of the schools in mid-twentieth century (middle center in Figure 55). Students need caffeine, for caffeine is the fuel that keeps them awake at night while finishing their projects to meet the deadline. Coffee could also remind design students the bitterness of their lives. As discussed in the introduction, the lives of design students can lead to unhealthy habits and a generally low quality of life.[40]

[40] See for example Koch et al., *Redesign of Studio Culture*; *Toward an Evolution of Studio Culture. A Report of the Second Aias Task Force on Studio Culture. Lessons Learned, Best Practices and Guidelines for an Effective Studio Culture Narrative* (American Institute of Architecture Students, 2008),

These kinds of messages are also advanced by school publications, which portray them as an expected experience for studio life, although they are historically constructed.[41] For example, the book *Design on the Edge*, celebrating the centenary anniversary of the College of Environmental Design opening at Berkeley University, represented students' perception of their experience in design studios:

> **On Design Studio: A Student's Perspective**
> Anonymous, a poem written at the height of "due date" fervor, ca. 1957
>
> Sheet's all dirty.
> Pencil's dull.
> Why did take architecture?
> Coffee tastes like mud
> I have a friend—in arts.
> He sleeps all night.[42]

With this poem, the publication gave voice to an 'anonymous' student who was struggling toward the deadline. There was no name of the author attached, and not a precise year either. The mythic interpretation suggests that any student around those years and decades could have had the same experience in their design studios. So, the single student's perspective becomes like a generally accepted truth.

Just as coffee, student's desk, and *charrette*, other narratives and representations associated to design studios could hint the utterance of other myths (Table 6).

https://www.aias.org/wp-content/uploads/2020/07/AIAS_Toward-an-Evolution-of-Studio-Culture_2008.pdf; *The American Institute of Architecture Students' 2020 Learning & Teaching Culture Policy Project* (American Institute of Architecture Students, 2020), https://www.aias.org/wp-content/uploads/2020/07/AIAS-Learning-Teaching-Culture-Policy-Project-Packet-2020.pdf.

[41] Lowell, Byrne, and Rothwell, *Design on the Edge*, 237.

[42] Waverly Lowell, Elizabeth Byrne, and Betsy Frederick-Rothwell, *Design on the Edge* (College of Environmental Design, University of California, 2009), 237.

Table 6. Examples of elements and objects which could convey mythical signification in design education.

Element/Object	Literal meaning (1st order sign)	Mythic signified (2nd order meaning)	Effect of the mythic message
Charrette	The handcart used by students to submit their project at the École des Beaux-Arts.	The time prior the deadline which requires sacrifice, rushing and intense work to finish in time.	This is the way students should pursue their training; being under pressure is part of the process.
Individual desk and stool (at night)	The individual setup for each student with extended accessibility.	The desk indicates independence, and it is where the creative process should happen at any hour of the day.	The design process is a solitary pursuit which requires devotion, sacrifice, and intense work.
Master-student relationship	The teacher guides the students during their training.	Genius, authority, artistic lineage, are among the messages uttered by this myth.	Knowledge flows from the master to the pupil, who owes respect and gratitude.
Home furniture, couch, fridge, clutter	Props not meant for the training per se, but that contribute to establish an informal atmosphere in studio settings.	They remind the students that they are there to support their work. Training in studio could include informal activities (eating together, napping, etc.).	Studios are student's second home. Commitment to the discipline means living there if necessary.
Coffee	Beverage for stay awake and focused.	Social ritual, creative fuel, students need it to finish their work.	Caffeine is part of the design identity and reminds the bitterness of design students' lives compared to that of other students.
Studio Culture (as a concept)	Settings and practices of design education.	Studio culture contributes to the education of design students.	It is expected that students would experience studio culture as part of their training.

Like settings and practices of design education, the existence of myths associated with them is linked to their historical contexts.[43] Therefore, they can persist, change, cease or fade away, and emerge anew.

The next and final section highlights the tensions that arise from bringing myths into the present, and their implications both in the making and understanding of studio culture in the future.

6.3 What futures for studio culture in design education?

By reading objects and representations of design education through the Barthesian model, it is possible to highlight myths associated with them. Using Table 6 to test various terms and objects also makes it possible to see how 'studio culture' actually functions as a myth. The analysis of literature and teachers' discussions in the Introduction revealed that studio culture is described as both the settings and the practices of design education (literal meaning). At the same time, adopting 'studio culture' as a concept unveils additional layers of meaning—the mythic signified—the broader cultural and ideological concept that the myth conveys. Scholars and instructors portray 'studio culture' as an important part of studio courses contributing to the education of students (2nd order meaning). In this way, studio culture is seen as something essential to studio life and an expected part of students' training (effects of reading studio culture as myth, right column in Table 6).

The idea of studio culture expressed through settings and practices, and the idea of studio culture as myth, highlight a new awareness about studio education: settings, practices, and representations of studios all contribute to the shaping of their culture. In the history of design education, besides the development of settings and practices, there has also been the development of narratives and their respective myths. But there is a conceptual distinction between these two interpretations, which also highlights a tension: while one shows the contingent reality of studio culture, the other shows how its representations can appear fixed and timeless.

In the thesis, it was possible to see how settings and practices helped shape studio culture over time. But the idea of myth also shows how representations could work as cultural constructs that naturalize certain values such as passion, power hierarchies, commitment, hard work, presenting them as timeless features of design education. As lived settings

[43] Barthes, *Mythologies*, 137.

and practices, however, studio culture is historically contingent, shaped by the people, events, and institutional decisions that have defined the history of schools and education. The tension lies in the fact that the myths conceal this constructedness, making contingent practices and settings appear fixed and inevitable.

This tension was particularly visible during the Covid-19 pandemic. The lockdown, which caused severe disruptions to the ways studios had been taught for decades, prompted discussions among design teachers about the future of education. While teachers weathered the difficulties of teaching design fully online, by both changing settings and adapting practices, they also inadvertently admitted how the experience of studio culture (the mythical idea they carried of it) went missing in their courses. For them, the myth of studio culture—a natural, fixed, and inevitable part of design studios—was not reflected in the reality of remote teaching.

The historical analysis in Chapters 3–5 portrayed how the discourse around studio culture is a recent phenomenon compared to the longer history of teaching and learning design. Yet the idea of studio culture as a myth makes it be perceived as a timeless and natural part of design education, even when actual studio experiences do not reflect it. The pandemic provides a striking example: fully online studios exposed a gap between the imagined studio culture and the realities of online teaching, thereby challenging and making visible the very existence of its myth.

Nonetheless as a myth, hence something that could change, cease or fade away (as discussed above in 6.2), studio culture should be understood as contingent and temporally bounded. It is not a permanent condition of design education, but a historical construct, open to transformation. The Covid-19 lockdown offered a clear demonstration of this: while the myth of studio culture persisted, its perceived timelessness was challenged, revealing its dependence on changing social, spatial and pedagogical conditions.

Much of the current literature on design education emphasizes the need for studio culture to adapt to new conditions. Nonetheless, the literature does not seem to challenge studio culture's pivotal role in defining contemporary design education. Instead, such literature substantiates the myths surrounding design studios and studio culture, considering them an essential part of design education.

Since 2000, the American Institute of Architecture Students (AIAS) has made significant attempts to understand and reshape studio culture by

publishing studio culture policy guidelines.[44] Other publications, such as *Studio Futures* (2015), have also begun to acknowledge the need to rethink the design studio and its culture, and envision future trajectories of design education, but without questioning their central role in design programs.[45] Starting in 2024, the International Federation of Landscape Architects (IFLA) launched the Global Studio Program, an experimental project that brings together students from different countries to collaborate on various "*charettes*" (*sic*), ensuring a global participation of students and schools.[46] According to the website, this initiative intended to leverage the well-known pedagogical tool of the design studio (and existing myths around it, like the *charrette*), to generate new interest and increase participation in the IFLA institution. This initiative illustrates how such programs continue to uphold certain myths (such as the *charrette*) within design education. Even if there are new models seeking to promote inclusivity and global collaboration, they continue to reproduce the same conceptual and symbolic frameworks that have long defined the studio, reaffirming rather than transforming its centrality in design pedagogy.

This project provides a new critical awareness about the historical development of settings, practices, and respective myths that have shaped studio culture and design education. At the same time, it also encourages ongoing reflection on the dynamics that continue to shape studio culture today, from the design to the implementation of studio courses and design programs. While there are settings and practices that have continued to characterize design education and professional practices across generations, instructors and students have also carried along with them myths which attached their significations, values, and beliefs.

In such a way, this thesis is of help for the education of future designers. While the settings and practices, with their respective myths, embody the idea of studio culture, they might also perpetuate what today may be considered problematic aspects of design education. Instructors need to be aware of the values and beliefs they are supporting in their studios by

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[44] Koch et al., *Redesign of Studio Culture*; *Toward an Evolution of Studio Culture.*; *Studio Culture: Stories and Interpretations. A Product of the 2015-2016 AIAS Advocacy Advisory Group* (American Institute of Architecture Students, 2015), https://www.aias.org/wp-content/uploads/2016/08/Studio-Culture-Stories-and-Interpretations.pdf; *Learning & Teaching Culture Policy Project*.

[45] Donald Bates et al., eds., *Studio Futures* (Uro Publications, 2015).

[46] "IFLA GSP - Global Studio Program," IFLA World - International Federation Fo Landscape Architects, 2024, https://www.iflaworld.com/global-studio-program.

adopting specific settings and practices, and how those could influence the larger understanding of studio culture.

For example, around-the-clock access to studios may support a culture of the studio as a community by allowing students to socialize and collaborate beyond class hours. But at the same time, it can encourage habits of excessive work, including late nights and overnight sessions. Likewise, the presence of home furniture like couches, and the possibility of keeping personal belongings in the studio may reinforce a sense of attachment and contribute to the establishment of a studio culture atmosphere. However, these features could also create expectations of total commitment and full dedication to the discipline. The use of terms such as *charrette* should not only recall that this type of training—marked by strict deadlines and intense pressure—originates from the pedagogical tradition of the École des Beaux Arts. It should also draw attention to the potential establishment of an awry studio culture and a toxic working environment that could foster overwork, labor exploitation, and abusing situations. Stories like the one of the 'family tree' of male studio instructors, or the use of terms such as *master* and *pupil* may help shape the identity and culture of design studios. Yet they may also perpetuate gendered assumptions and biases within the discipline, by reproducing hierarchies of authority and authorship that historically excluded women and marginalized voices from the discipline.

Raising awareness of how the settings, practices, and myths of design education have evolved over time and perpetuated across institutions is fundamental to developing a more reflexive approach toward the future of design education and its culture. Much more, however, remains to be done to understand how studio cultures, and the respective myths that have emerged and persisted within different institutions, take shape and endure. The last part of this thesis outlines possible directions for expanding this field of enquiry.

6.4 Looking forward by looking back

This examination of design education settings and practices, alongside the analysis of the myths embedded within them, has offered insights into understanding the dynamics of studio culture as developed from individual institutions at specific moments in time. However, in reflecting how studio myths operate in contemporary contexts, it becomes evident that some myths

are not representative of the actual conditions of design education. Indeed, myths could significantly diverge from the present reality. Consider, for example, the changing role of the instructor, who once was considered as the expert genius who used to know everything about the design process and drawing tools; or the digitization process which transformed fully analog work spaces into hybrid environments allowing the use of digital tools such as desktop computers and laptops; or also some schools' progressive move from studios providing individual spaces for students to more flexible spaces with a hot desking system.

This idea goes beyond the scope of this thesis, but it raises new questions that demand further research. What happens when long-standing myths are confronted with contemporary realities? How do these myths manifest, adapt, or lose relevance in present-day design education? How are they sustained or challenged? These questions arise from the assumption that some myths continue to persist, while others diverge from the lived realities of studio practice.

The study of educational settings in the second half of the twentieth century and the early twenty-first century would certainly enrich the historical account and the discussion presented in this thesis. One possible direction for future research would be to trace more precisely the various interpretations of studio culture, with their practices of studio life, settings and pedagogies, within specific contemporary contexts. This would allow the mapping of different traditions of design education and their respective studio cultures. For instance, new case studies could include historical analysis of local institutions or focus on specific design disciplines and programs to gather new nuances in the ways studio culture has been interpreted and put in practice. Another possibility would be to examine how studio culture has evolved within today's top-ranked architecture schools (for example those at UCL, MIT, TU-Delft, ETH Zürich).[47] Or also, it would be interesting to explore contexts and institutions outside the western world, to map and compare the evolution of different settings and practices worldwide. Such studies would make it possible to test and extend the legacies identified through the analysis of schools and institutions conducted in this thesis.

[47] "QS World University Rankings by Subject 2025: Architecture & Built Environment," QS Top Universities, March 12, 2025, https://www.topuniversities.com/university-subject-rankings/architecture-built-environment.

Certain aspects of design studios and studio education may change quickly—particularly their technologies, tools, and pedagogical approaches—while other elements, such as underlying values and traditions, could persist over time. Therefore, the myths carried by instructors and students about their experience of studio culture and studio life, like those portrayed in the previous section (6.2), may only partially reflect the realities of contemporary design education. The pandemic lockdown and consequent move to online teaching was but an example of the changing reality of the present time. But what is even more important is to see how the end of the lockdown was not followed with a precise stepping back to previous conditions of studio education. For example, the addition of online lectures, or the possibility of remote participation of critics from other parts of the world, has rather increased the possibilities and flexibility of post-pandemic studio education. Another trajectory for future inquiry would be to analyze the effects of the recent pandemic lockdown on studio culture, and consider the shifts to post-pandemic settings and practices. How did the pandemic change the ways to carry out studio education? How do post-pandemic design studios look like and function? What are the current issues faced in design studio education?

There are myths of studio culture that are inevitably challenged in the present. After the pandemic, the changing settings and the need for both physical and online space required studio teaching to adapt to new conditions. The changing practices for design training that introduce new tools, such as AI, in the process also challenge the myths and ideas connected to studio education.

At least two sets of questions arise from this interpretation, both from a practical and a pedagogical point of view. During Covid-19, images like those portrayed in Dana Cuff's book were not representative anymore of a studio learning situation (Figure 61, Figure 63, Figure 64). Neither are they representative of current studios. Today, the presence of laptops on students' desks is taken for granted, as well as the online environments they use for lectures and seminars and the virtual space provided by their design software and digital tools.

The use of laptops and AI is now inevitably part of the design process. Already in 2023, the integration of AI tools in design representations for professional use started to challenge the role of designers, changing it from

that of creators to that of mere selectors among AI generated alternatives (Figure 65).[48]

Figure 65. This post from 2023 from Facebook Meta shows the innovative use of AI tools for generating landscape representations. (Source: Worldlandscapearchitect.com posted on Facebook; the article in the link is by Damian Holmes)

On a practical level, this dramatically changes the ways to carry out projects in design studios too. For example, think of all the newsletters teachers get with invitations to webinars and workshops about using AI in design education; along with new interdepartmental working groups and conference panels dedicated to this topic. The case study provided by a Portuguese professor at the 2024 European Council of Landscape Architecture Schools

[48] Damian Holmes, "Using Artificial Intelligence for Landscape Representation," World Landscape Architecture, June 28, 2023, https://worldlandscapearchitect.com/the-use-of-artificial-intelligence-in-landscape-representation/?v=0d149b90e739; For further readings on the inseparability of AI from the design process see, Niall Patrick Walsh, "AI Is Good For Architects (For Now)," Archinect Features, April 15, 2024, https://archinect.com/features/article/150422545/ai-is-good-for-architects-for-now; And see also, Cong Fang et al., "Generative AI-Enhanced Human-AI Collaborative Conceptual Design: A Systematic Literature Review," *Design Studies* 97 (2025), https://doi.org/10.1016/j.destud.2025.101300.

Conference (ECLAS) is an example of how quickly studios are changing, and how some studio myths are unable to adapt to these changes.[49] He began by noting that students today have unprecedented access to and familiarity with technology, and are generally more knowledgeable with new technology than their teachers. Around 30% of them owned drones and knew how to take aerial pictures and videos. In this context, he sought to integrate students' skills into the design process, encouraging them to use AI tools, particularly AI chatbots. His intention was to integrate a student-AI dialogue in the design process. In this model, AI acted as an assistant—a student's companion—helping students evaluate solutions and generate visual material throughout different design phases. Other authors did similar experimentations introducing AI in various phases of student's design process, and discussing it as a "virtual colleague,"[50] an assistant,[51] or a "collaborator."[52] In all cases, AI was not presented as a tool for students, but as active agents able to co-create with them.[53]

While these studies highlighted the future for design education and professions, they rarely addressed the pedagogical implications for design studios. Only a few considered ethical issues, the designer's role, or the potential loss of agency during the creative process.[54] How do these changes reshape the purpose of studio teaching? For example, how does using AI as a 'student's companion'—allowing students to discuss projects with a chatbot, similar to a desk critique—challenge the myth of the master-student relationship? Does it reduce the intimate character of one-on-one criticism, traditionally central to guiding students in their process? How does it

[49] José Miguel Lameiras et al., "The AI Landscape Design Studio," paper presented at European Council of Landscape Architecture Schools Conference, Brussels, *ECLAS Conference 2024: Regenerative Landscapes*, Oxfordabstracts, 2024, https://virtual.oxfordabstracts.com/event/5130/submission/280.

[50] Yaron Meron and Yasemin Tekmen Araci, "Artificial Intelligence in Design Education: Evaluating ChatGPT as a Virtual Colleague for Post-Graduate Course Development," *Design Science. An International Journal* 9 (2023): e30, https://doi.org/10.1017/dsj.2023.28.

[51] Güliz Özorhon et al., "AI-Assisted Architectural Design Studio (AI-a-ADS): How Artificial Intelligence Join the Architectural Design Studio?," *International Journal of Technology and Design Education*, ahead of print, March 2025, https://doi.org/10.1007/s10798-025-09975-0.

[52] Derya Karadağ and Betül Ozar, "A New Frontier in Design Studio: AI and Human Collaboration in Conceptual Design," *Frontiers of Architectural Research*, ahead of print, March 2025, https://doi.org/10.1016/j.foar.2025.01.010.

[53] Wendy Fangwen Yu, "AI as a Co-Creator and a Design Material: Transforming the Design Process," *Design Studies* 97 (March 2025), https://doi.org/10.1016/j.destud.2025.101303.

[54] Wang Jiaqi et al., "Teaching with Artificial Intelligence in Architecture: Embedding Technical Skills and Ethical Reflection in a Core Design Studio," *Buildings* 15, no. 17 (2025), https://doi.org/10.3390/buildings15173069; Derya Karadağ, "AI in Architectural Education: Rethinking Studio Culture," *PLANARCH - Design and Planning Research* 9, no. 2 (2025): 243–53, https://doi.org/10.54864/planarch.1749891.

influence peer-learning and collaboration among students? Furthermore, using AI to generate design ideas shifts the designer's role from creator to selector of AI-generated solutions, potentially challenging the authority of both students and instructors. This may also undermine the authority of teachers and critics who were once expert practitioners and knowledgeable with their design tools. If students are more skilled than their teachers in using new technologies and AI to support their design process, how does this change the purpose and methods of teaching design?

These examples, though beyond the immediate scope of this thesis, point to a broader insight emerging from this research: studio culture is not a fixed inheritance but a living construct, continuously shaped and challenged by social, technological, and institutional change. The myths that sustain it could remain powerful cultural narratives, yet they are constantly renegotiated in light of contemporary realities. Looking forward, understanding how these myths endure, adapt, or fade will remain essential for reimagining design education and fostering a reflexive approach to evolving pedagogical conditions.

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Popular science summary

Imagine a design classroom. The class environment conveys a relatively informal atmosphere. Students work at their desk on their own, or in groups. They learn by doing, and train in one of their design disciplines. They carry out various activities and perform different exercises. They draw. They sketch. They use their laptop. They present their work. They talk to each other, and discuss each other's work. They help and support their peers. They make things and build models with different sorts of materials. On their desks, there are different tools: pencils, markers, triangles, T-squares, paper, tracing paper, cardboard, glue, cutters, tape. Students play, eat, and nap, all in the same place. A general noise and clutter keep them company also after class hours, as project deadlines require around-the-clock work to finalize their endeavor.

Design students and instructors teaching design call this complex environment "design studio." Many scholars and studio instructors share the same view and think that students have to live such experience in studios, in order to become designers and enter their professional practices after graduation. They often discuss students' experience in design studios in terms of settings (the arrangements of space and its props) and practices (the type of training activities they perform). They refer to this students' experience as part of a larger "studio culture" that characterize the type of learning and training of design education pedagogy. Studio culture, they claim, is a natural part of design studio education.

The Covid-19 pandemic started to challenge these assumptions. Lockdowns and social distancing forced structural changes both in the spaces and the ways to perform design education. But many scholars continued to view the design studio as a fixed model, with its own culture rooted in European and North American traditions, which is essential for training

designers. Little critical research has been conducted to study the historical development of design studio education and its culture. Gaining a historical perspective is crucial for understanding how design education, through its settings and practices, evolved around the idea of the design studio. Analyzing their role in shaping contemporary studio culture is the goal of this thesis.

The research provides a historical analysis of design education in key institutions between the mid-19th and mid-20th centuries, as they were addressed by scholars as constituting the roots of contemporary studio education. Cases include the École des Beaux-Arts in Paris, Arts and Crafts schools in England, the Bauhaus school in Germany, and North-American design programs. It examines how the interplay of design education settings, practices, and the ways they were discussed and represented, evolved overtime in these contexts.

The conclusion argues that studio culture is not something fixed and inherited from the past, which needs to be perpetuated to future generations. Rather, it is a living and changing practice shaped by social, technological, and institutional forces. This research adds to current discussions about studio culture. By examining the settings and practices of design education, and the ways they are represented and discussed, it provides historical insight into their cultural importance and encourages a more reflective response to today's teaching challenges.

Populärvetenskaplig sammanfattning

Föreställ dig ett designklassrum. Miljön där ger intryck av en relativt informell atmosfär. Studenterna arbetar vid sina bänkar på egen hand eller i grupper. De lär sig genom att göra, och utvecklar sina specifika designfärdigheter. De genomför diverse aktiviteter och utför olika övningar. De ritar. De skissar. De använder sin bärbara dator. De presenterar sitt arbete. De pratar med varandra och diskuterar varandras arbete. De hjälper och stödjer sina kamrater. De tillverkar saker och bygger modeller med olika sorters material. På deras bänkar finns olika verktyg: blyertspennor, märkpennor, trianglar, T-linjaler, papper, kalkerpapper, papp, lim, knivar, tejp. Studenterna roar sig, äter och tar en tupplur, allt på samma plats. Allmänt oväsen och röra finns omkring dem även efter det att undervisningen slutat för dagen eftersom deadlines ibland kräver arbete sent in på nätterna för att slutföra designuppgiften.

Designstudenter och lärare som undervisar i design kallar denna komplexa miljö för en “designstudio”. Många forskare och lärare har uppfattningen att studenter behöver uppleva studiolivet för att bli designers och påbörja sin yrkespraktik efter examen. De diskuterar ofta studenternas upplevelse av designstudio som en fråga om miljö (rummets utformning och dess tillgängliga material) och praktik (den sorts övningsaktiviteter de utför). De refererar till studenternas upplevelse som en del av en större ”studiokultur” som är karakteristisk för typen av lärande och övning inom designutbildningspedagogik. De hävdar att studiokulturen är en naturlig del av designstudioutbildning.

Covid-19-pandemin började dock utmana dessa antaganden. Nedstängningar och social distansering tvingade fram strukturella förändringar både i fråga om rum och sätten att utföra designutbildning. Men många forskare fortsatte att betrakta designstudion som en fast modell, med

sin egen kultur med rötter i europeiska och nordamerikanska traditioner, nödvändig för utbildningen av designer. Designstudioutbildningens historia och kultur har inte granskats kritiskt i någon större utsträckning. Ett historiskt perspektiv är avgörande för att förstå hur designutbildningen, dess miljöer och praktiker, har utvecklats runt idén om designstudion. Målet med den här avhandlingen är att analysera dessas roll i utformandet av den samtida studiokulturen.

Avhandlingen presenterar en historisk analys av designutbildningen vid nyckelinstitutioner mellan ca 1850 och 1950 som av forskare betraktats som rötterna till samtida studioutbildning. Bland exemplen finns École des Beaux-Arts i Paris, Arts and Crafts-utbildningar i England, Bauhaus i Tyskland och nordamerikanska designprogram. Avhandlingen undersöker hur samspelet mellan designutbildningens rumsliga miljöer, praktiker och sättet på vilket de diskuterades och skildrades utvecklades över tid i dessa sammanhang.

Slutsatserna visar att studiokulturen inte är något fast och nedärvt från det förflutna, som måste vidmakthållas för kommande generationer. I stället är den en praktik som formas av sociala, tekniska och institutionella krafter. Forskningsprojektet utgör ett bidrag till de pågående diskussionerna om studiokultur. Genom att undersöka designutbildningars miljöer, praktiker och representationer, ger den ett historiskt perspektiv på designutbildningars kulturella betydelse, samtidigt som den uppmuntrar till ett mer reflekterande respons på dagens undervisningsutmaningar.

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When holding this thesis, the reader encounters only a final product: a few hundred pages of text and images, arranged and printed, in which ideas unfold from beginning to end—from introduction to conclusion. When I look at it, however, I cannot avoid seeing it as a palimpsest, composed of several overlapping layers of text within each chapter. Texts were written, erased, adjusted, fixed, and rewritten. Chapters were merged; others were split. Other chapters were set aside. Method and research questions changed too. The project was paused, resumed, and reshaped. This final product does not reveal the adventure and the experience of doing it.

Above all, this project has been a journey for me. I am no longer the person who initiated it. Reading earlier drafts now, I encounter versions of myself whose voices and concerns feel distant. I changed during the process and I met remarkable people who inspired and supported me in many different ways. Some accompanied me throughout the entire journey; others supported me during specific phases. Some left early; others will remain part of my life beyond this project. Without them, it would not have been possible to carry this work to completion. This section is dedicated to acknowledging those who would otherwise remain invisible in the thesis.

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This thesis contributes to the ongoing discourse on studio culture. Examining design education settings, practices, and representations, it offers a historical perspective on their cultural significance while fostering a more reflexive approach to emerging pedagogical challenges. While studio culture is often understood as something necessary for the training of students—fixed and inevitable—the conclusion argues that it should also be understood as a living construct, continuously shaped and challenged by social, technological, and institutional change.

Andrea Conti received his doctoral education at the Department of Urban and Rural Development at SLU. He holds a Master's degree in Engineering of Building and Urban Systems from the University of Bologna.

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