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设计教学空间的立场
Pedagogical Positions of Design Teaching Spaces

张利/ZHANG Li

绝大部分建筑师的建筑设计始于建筑学院的设计教学空间。颇具怀旧色彩的“专教”一词在某种程度上传达了这类特殊教学空间的识别性。我们不欲称自己是环境决定论者，但不可否认的是，设计教室——或“专教”——对那些年轻建筑师至关重要的影响。我们在设计建筑物的过程中，浸染建筑师的习性。我们在此以无知者的天真，毫无抵抗地接受这空间传递给我们的立场。

设计教室从来不是，也不可能是一种中性的透明存在，虽然不止一个当代的前卫建筑学院声称要彻底去除设计教室的阶级性引导。设计教室总是其附属教育机构的建筑教学空间的原型物化，我们可以从 3 个方面识别一个设计教室所携带的教育立场。

第一方面是设计教室的社会结构立场。任何一个设计教室都容纳着由设计教师与设计学生所组成的群体，而其中蕴含的组织结构与行为结构是非

常令人感兴趣的。其一，在教师与学生之间，传统的基于等级制度的垂直关系与同时下的基于团结与探讨空间的水平师生关系有所矛盾。其二，在学生与学生之间，传统的一对一的个人空间越来越多地与共享空间之间或者彼此之间或者相对面的群体空间之间相互结合。事实上，如何取得设计教学的个人空间与共享空间之间的平衡是困扰建筑学院决策者们的重要问题，各学院的创造性策略也是层出不穷。哈尔滨工业大学建筑学院充分利用了苏式建筑的方形环廊，使渗透式的设计教学空间在旧的规则边界网格中灵活地蔓延，使历史韵味浓厚的空间历经沧桑。天津大学建筑学院则描绘出学院教学中引入多层次的社区化的景象，随着学院建筑的改造与扩建，这种社区性不断得到增强，东南大学建筑学院则使用了完整的可移动性构件，在相当规模的空间中把局部空间组合的多样性最大化，实现了以适应变化的有限空间的无穷。香港中文大学建筑学院使用了高可视度的边陲空间，强调非正式交往中的叙事性与正式活动中的流动性。

第二方面是设计教室的技术立场。既然是技术，就总会明显地存在演绎逻辑的新与旧，也总避免在不同院校之间形成一种静止更新的“蛙跳”效应。清华大学建筑学院在旧建筑的院落之中加入通透的新楼，不仅在新楼的照护结构中实现了

一系列的节能技术措施，更通过新旧建筑体量组合，戏剧性地改善了局部室外环境。香港大学建筑学院在旧楼的使用中，不停地融入高密度环下的可持续性策略，从对气候的适应到对空间使用的适应，从热环境到光环境，以基本的建造逻辑来维持建筑空间的高性能。新近建成的西交利物浦大学的设计楼则是在各种空间技术条件上的基础之上，赋予了最新的建造实验室以建筑学院的中心地位，让建造技术的过程与结果同时为设计教学服务。

第三方面是设计教室的美学立场。每个建筑学院的决策者都明白，设计教学空间的形式美是自己学院所坚信的建筑美学的无言宣言。因而每个内心强大的建筑师在面对形式问题时都会坚持走自己的路，每个自信的学院在此也都不避

而地把自己认定的形式干预纳入到设计教学空间之中。内蒙古工业大学建筑学院延续其校园早期工业建筑改造所定义的粗犷与厚重语汇。重庆大学建筑学院通过其色彩向性对中庭空间的使用强调创建者的初衷。华南理工大学建筑学院基于热带气候，把其院落的延展友好性、空间适应性与界面通透性发挥到极致。同济大学建筑与城市规划学院在逐渐改改的建筑群组之中，清晰地贯穿国际现代都市的材料与几何表达。中国美术学院则是在教学空间的内外思考着如何传递其灵魂式信息，即对中国园林空间诗学的钟爱。

本期杂志是《世界建筑》对建筑设计空间话题的关注的第一部分，我们将在后续专辑中呈现其他精彩案例。

感谢本期所涉及的建筑学院的相关作者，是他

们使本期杂志的出版成为可能。

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收稿日期：2017-07-11
Most of us start our architecture education in design studios. It is these spaces that give us the first identity of someone working in architecture. We don’t intend to promote environment determinism here, but it is true that spaces for design teaching have fundamental impacts in the setting up of our values towards architecture. We first enter these spaces when we were young and ignorant, totally defenceless to whatever influence they would bring.

Therefore no design studio, or space of design teaching, is impartial. No matter how many avant-garde architecture schools claim to be impartial, they simply cannot. In a design studio we see the honest materialisation of the pedagogical positions of the institution to which it belong. We may observe these positions from three aspects.

The first is the position on social structure, to be more precise, the social structure of the people involved in the activities of a design studio, namely teachers and students. On one hand, in terms of the relationship between the teacher and the students, we see a global trend of the more horizontal structure replacing the traditional vertical one. On the other hand, in terms of the relationship among students, we see the increasing importance of shared common space as opposed to the isolated personal space. Actually, every leader of an architecture school must face the dilemma of balancing the shared and the individual working spaces in the studios. In different schools we see different yet equally clever solutions. HIT utilises the generous corridors circling the old Soviet quadrangle and results in a series of permeable teaching spaces out of a rigid grid. Tianjin U was the first to incorporate multi-layered atrium in a modern Chinese architecture school and it has been continuously enhancing the sense of community along with its expansions and renovations ever since. SEU adopts a fully-fledged mobile and rapid assemblage system in its studios and pioneers in creating infinite local spatial configurations within very limiting perimeters. CUHK features a highly visible atrium along its entire length, adding spatial narrative and fluidity in all learning activities.

The second is the position on technology. By default, there are newer (more advanced) and older (more dated) technologies. In reality, architecture schools leapfrog each other with technological upgrades. When doing the new addition in the centre of its old courtyard, Tsinghua not only sported a full range of energy saving technologies in the new building facade but also managed to obtain a dramatic micro climate improvement between the old and the new. During its 40 years of use, HKU has been constantly upgrading the spaces of the architecture faculty, producing a very sustainable story both environmentally and programmatically. The wonderful new design building of XJTLU demonstrates itself as an undeniable jack of all trades, from spatial flexibility to the ultimate transparency of a modern fab lab.

The third is the position on aesthetics. Every dean understands that design studios is the silent manifesto of the belief his/her school holds. That’s why all architecture schools would try to do some proprietary formal intervention in their design studios, fearlessly and unapologetically. IMUT sticks to the straight-line mass it has developed in its early renovation of industrial heritages. Chongqing U maintains its colour scheme and atrium centrality as a perseverence of identity. SCUT is obsessed with its U-shaped tropical courtyard and maximises its adaptability and transparency. Tongji is keen to give its entire possession of 4 buildings an unmistakable modern metropolitan vibe, in both material and geometry. CAA embeds its sole educational purpose in its building: the life-long preoccupation with the poetics of Chinese gardens.

This issue is the Part I of WA’s series on the subject of architecture teaching spaces. We would publish other institutions in the next part of the series.

Out thanks to all contributors from the institutions we are publishing in this issue. They made our publication possible.
第三教师——西交利物浦大学新设计楼：学生走向建筑师之路

柯石安
尚晋译

2016年当我来到苏州担任西交利物浦大学（简称“西浦”）建筑系主任时，我被告知西浦的南校区在建设一座新的“设计楼”，供建筑系和工业设计系共同使用。我意识到这座新的建筑将成为批判性反思空间与建筑教育关系的好机会。虽然在那个时刻，我无法想象到决策、设计和实施过程中的各种困难。这座新的设计楼于2016年8月启用，总建筑面积约7000m²。建筑系有450名学生和40位教职员工，工业设计系有250名学生和20位教职员工。

在第一学年末结束之际，借助米兰·奥格里亚诺维奇的照片记录的这座建筑在整个学年的日常生活，就可以对设计的过程和结果进行一次批判性反思了。

1 对总体布局的批判性反思

当我来到西浦时，新设计楼已在施工。建筑整体的设计是由英国 BDP 建筑设计（上海）公司完成的，西浦南校区的总体规划也是这家公司负责的。主要的限制条件在于平面的特殊形状，使3种不同空间组合在一起：容纳大讲堂的椭圆形，教室围绕着中庭形成的不规则四边形，以及连接两个主体的玻璃幕墙。建筑系对此提出了调整，其中唯一被设计公司接受的是去掉上层的讲堂，改为通用的“设计工作室”。在对平面的初步检查中，我发现总体布局对各个空间的分隔仍是相当模糊的。对设计工作室没有提出任何明确的分隔，而是作为一般的“开放空间”，学生使用普通的课桌，每人只有60cm宽的空间。

在那个时刻去改变建筑结构和立面已经是不可能的，但西浦的管理高层提出调整内部布局的可能性。这样就有机会构建一种更为理性的组织方式：突出两个共享的重要的空间，同时需要为战略规划中新增的新设施安排位置；一个材料图书馆，一个展厅及数字化制造高级实验室。我提出将所有的工作室和档案空间集中在首层，环绕中庭的材料图书馆。材料图书馆采用具有启发性的双层厂房空间的意向，局部以夹层存放各种材料。这样，进入学院的第一感受就是学生制作模型的场景。工作室为设计学院创造出统一的形象，使大楼与建筑施工和工艺制造的过程紧紧相扣。

在二层，中庭很容易改造为展览厅，成为整体建筑物的中间，而上层也围绕它进行组织。工业设计系在这一层，第三四五层是建筑设计工作室。第五层是两个系的办公室。

2 建筑学院鲜明的建筑特征

如何为建筑设计来设计具体的空间？在我看来，

二层平面

首层平面，玻璃墙作为学生作业的展示架将中央区域分出材料图书馆，将其两侧分出不同的工作室
1 A critical reflection on the general layout
要成为建筑师，学生就需要从日常设计实践中学习，因此设计楼的一个关键理念就是将学生的个人工作空间放在学院的中心，而不是在传统的教室中。我曾在一次工作坊中和都灵理工大学的建筑系硕士思考这些问题。那次活动的主题是 P.L. 米利康于 1947 年在著名的展览厅——设计的一座新建筑学院 1。作为这一设计作品的参考，我引用了教育学家洛里斯·马拉古齐的著名理论。这一理论曾成功地在雷焦·埃米莉亚的“幼儿园模式”中进行试验，但从根本上说，也适合培养建筑师和设计师。学生从老师和同学身上学习，也从“第三教师——空间”中学习。

对于建筑系学生来说，这位“第三教师”尤为重要。我记得许多美轮美奂的学院建筑让学生从它们的空间中得到启发成为建筑师。比如密斯·范·德·罗的芝加哥建筑学院、诺瓦罗·西扎设计的波尔图建筑学院和利维奥·瓦尔内尼设计的南特建筑学院。对于西浦大学，建筑已经完成设计并开始施工，这在很大程度上限制了再创造的可能。此外，还有预算和时间的制约。因此，我决定将注意力集中在 3 种不同工作空间的关系上：一是学期开始分配给每个学生的个人专用空间，它将成为日常生活工作的“第二个家”；二是小型工作单元（即设计工作室），学生们在这里通过团队合作互相学习，并在每周教学中接受教师指导；三是集体空间，学生们在此向同学、老师和外请专家公开展示和讨论设计方案。

如何在不规则的建筑形体中组织这 3 种空间？如何保证每个学生无论在大楼的哪个位置都有良好的工作条件，同时避免过度分割？在第一次游览苏州传统宅院和园林之后，我开始对木立面上现代特征着了迷，成对的门窗形成了千变万化的构图。我认
2 A strong architectural identity for a School of Architecture

How to design specific spaces for architectural education? In my opinion, to become an architect the student needs to be educated through the daily practice of the design activity, and for this reason a key concept of the Design Building was to put individual workspace of the students in the centre of the school, not traditional classrooms. I had the occasion to reflect on these questions working with a group of students of the Master program in Architecture at the Politecnico di Torino in a studio dedicated to the design of a new School of architecture in the well-known “Palazzo delle Esposizioni”, realised by Pier Luigi Nervi in 1947.

As a reference for this design work, I used the famous theories of the pedagogist Loris Malaguzzi, successfully experimented in the “kindergarten-model” of Reggio Emilia, but fundamentally appropriate also to form architects and designers: students learn from teachers and from other students, but also from the “third teacher that is the space”.

For architecture student, this “third teacher” is particularly important, and I remembered some beautiful schools as the Crown Hall of Mies van der Rohe in Chicago, the Architecture School of Oporto designed by Álvaro Siza, or the School of Nancy designed by Livio Vacchini, where fortunately students are stimulated by the space to become architects. At XJTLU the fact that the building was already designed and in construction restricted a lot the possibility for invention. Other constraints were the necessity to comply with the budget and limited time. I decided for these reasons to concentrate my attention on the relations between three different categories of workspace: the individual desk which every student takes possession at the beginning of the semester, becoming a “second home” for the working everyday life; the small working unit (the design studio) in which the student learns from other students in the team work, and learns from the teacher in the weekly tutorials; the collective space in which the student has to exhibit and discuss publicly the design work in front of other students, of the teachers and of the visiting critics.

How to organise these three categories of space in an uneven shape of the building? How to ensure good working conditions for each student, regardless of the location in different parts of the building, and at the same time how to avoid an excessive fragmentation? Since my...
为这种“中国现代性”图案是中国的国际建筑院校丰富的灵感源泉。同时我想到阿尔伯特的新名：”事实上，根据哲学家的观点，如果城市就是一座大建筑，而且反过来建筑就是一座小城市，那么我们何不将它的组成部分——庭院、凉廊、大厅、门廊等——也叫做小建筑？“想到这两个例子，我决定将这些空间沿着两条大走廊布置，让它们营造出中国传统城市街巷的感觉，并加上了木立面和双扇门，就像在城市中街道是公共的而住宅是私密的一样，清晰区分了个人工作与社交空间是可能的。每个学生都可以在一个学习单元里，享受自己工作的最佳条件。同时4m 宽的中央“大通”可以作为公共社交空间，而不只是连接空间。模仿苏州传统立面结构和数模化创意序与渐变的手法，我设想在双扇门之间实现不同功能的方式。因此，门扇成了一扇面：一面涂色，一面覆软木。当所有门窗闭合时，只能看到连续的木立面；而全部敞开时，学生可以将设计作业钉在软木板上。

由于建筑深远，我意识到中厅工作空间无法享受自然光，但同时我希望所有学生都有相同的基础设施：每个工作空间具备90cm x 180cm 的桌子、软木墙可以收集和展示学生的草图、图纸和照片。为了按不同学年组织空间，就必须考虑西浦的特殊条件。这所大学让本科生有机会在大二后再到利物浦大学攻读另一学位。由于现在已有60%以上的学生活出了这种选择，就必须根据学生人数的变化来组织设计工作室；大二有 200 多学生，大三、大四不超过 100 人，而每年的硕士生最多 25 人。因此，我决定把大二学生集中在中部空间，只为他们提供基本配员：带软木墙的个人专用桌。其他设计工作室可以使用分隔墙和立面不超过形体之间的额外空间，在这里进行团队合作，制作大型城市模型。这样，在大二后留下的学生会有更好的工作空间。随着年级的增长，大二学生有 4m²，大三有 6m²，大四有 8m²；而硕士生每人有 10m²。设计工作室的这种组织方式让不同年级的学生可以经常交流，尤其是在走廊进行评选时。这让学生可以相互学习；在第一条走廊中，大三学生面对着大二学生；而在中庭两侧，大四学生面对着硕士生。

3 担任顾问

设计与实施的困难主要在于一切都是在没有正式的建筑师委托下完成的。作为系主任，我有法律上的授权，可以代表用户得益，但我对中国的设计和施工情况一无所知。一开始没有专业团队，很难表达我的意图。当刚从京都理工大学毕业的卢想在 2015 年 6 月来到京都时，情况改变了。从此开始，他负责新布置的图纸，并参加了最初与学院管理办公室及施工单位的会议。随后，他便开始在工作室工作。这种与所有人员的沟通，使设计和实施顺利进行。
3 Working as a consultant of the construction company
后2016年3月来了第二位博士生林谦，他协助我完成关键图纸。最后，我的同事铁立安在施工最终阶段作为顾问进行了工作。

一开始，我亲自作为负责设计的建筑师的顾问就可以，希望任何与设计有关的政策都能以一套统一完整的图则为基础。不过，我很快意识到，不仅当地设计院无法准确读懂我的草图，而且没有人想对延展期或提高成本的风险采取指使。在多次审阅之后，我最终明白应该采取不同的策略：根据施工阶段逐步推进，并等待施工单位的问题。西浦检察院的项目经理刘云鹏在这一过程中为我提供了帮助，建议我避开建筑师直接与施工单位对话，以此建立相互理解。关于材料和建筑细部的最初决定在首层：为了凸显工作区的工业特征，我提出将地面作为混凝土，用长方形的排架梁将中部的框架与周围空间隔开。这些排架梁作为展示学生优秀模型的永久展示，用玻璃盖住厚实的混凝土柱，让所有的承重结构都能营造出轻盈通透的形象。为了让合作方理解这种做法的意义进行了多次讨论。

通过逐条与施工单位积极沟通，就越容易进行整体，从而提高空间质量。例如：中庭的挂板最初是建筑长板以面状铝板，短边用玻璃——与旁边的墙面做法一致，由于需要将中庭改为展览空间，我提出四边框一铝制，并用明快的色彩给空间带来活力，色调则从暗到亮，与自然光正相反：红色在顶部，橙色在中间，黄色在底部。

最终导致的关键问题是门窗的施工。因为希望让人从图中出一种“中国风”，同时又不会觉得做作。借助大量苏州古典园林门窗的照片和测绘图，我发现需要至少5cm的厚度。这不仅是为了尊重原比例，也是为了满足轮换展板所需的强度。我们按1:1的比例制作了一整套门窗，以便木材工艺制作的模型来测试方案。我想让门窗的表面与底部及门扇齐平，这样当关上所有的门窗时，就只会看到连续的木立面。为了精确确保门窗进行了多次现场讨论，并根据建筑的不规则形门扇提供了4种模型（180cm、190cm、200cm和230cm）。接下来的问题是色彩的选择。
Where We Started: Spaces for Architectural Education (1)

An col labor at ed as a consul t ant in the last phase of construction.

At the beginning, I thought that it would have been possible to become a consultant of the architects in charge of the design, in the hope that any decision regarding the interior design could be founded on a set of complete and coherent drawings. However, I quickly realized not only that the local design institute couldn't interpret correctly my sketches, but also that nobody wanted to change the approved plans, in the face of the risks of slowing the construction, or increasing the costs. After many misunderstandings, I finally realized that I should follow a different strategy, proceeding step by step according to the different phases of the construction, and waiting for the questions of the construction company. LIU Yunpeng, the project manager for XJTLU's management office, helped me in this process, proposing me to speak directly with the building company, bypassing the architects and facilitating in this way the mutual understanding.

The first decisions for materials and building details were to be taken on the ground floor. To highlight the industrial character of the workshops area, I proposed to leave the floor with the bare concrete, and to separate the central core from the lateral spaces by a long row of glass shelves, to be used as a permanent showcase for the best models produced by the students. Many discussions were needed to make the understand the importance of moving the glass to cover the heavy pillars in concrete, so that all the bearing structure could be hired for producing an image of transparency and lightness.

Little by little grew the mutual trust with the building company, so that it became increasingly easier to propose changes for increasing the quality of the spaces. For example, the cladding of the central void was originally with panels in aluminium...
我希望用中国传统4种典型色彩（黄、红、深蓝和深绿），但没有人能告诉我如何找到这些传统色彩的准确成分。最后，我提出用《乾隆皇帝像》和《科举图》等绘画作为直接在门楼上色的参照。不同的色彩沿着两条内街交替变换，中部的设计工作室是红黄，与底层的明亮色彩相连；外部工作室是蓝绿，这些交替的色彩在第三四层上进行了反转，所以能从任何地方同时看到全部4种色彩。

材料图书馆仍作为施工中，其中将长期展出约500种样品，并分为3个房间：供小型展览和研讨会用的双层中厅，以及分在两层上的侧厅。这个空间2017年被用于硕士毕业设计展。关于这个立面也有很多讨论。在我最早的一张草图中，我提出了用3种材料作挂板的简单想法：聚碳酸酯、钢和竹子。用聚碳酸酯和钢做挂板的技术方案经过与校管办出色团队的讨论最终确定下来，但他们总是让我给出用竹子完成最终部分的图纸。我回答：“竹子是在中国广泛使用的一种优良材料，找到杰出的工匠就能施工，但这种方案是画不出来的。”2个系的同事丽莎・巴洛内，达拉斯塔和雷杰罗・卢诺瓦提出与20名学生组织一次竹材工作坊，为创造竹制模型创造了机会。3位来自上海的杰出工匠向建筑系和工业设计系的学生传授了竹材的造形技艺，并让他们亲手尝试制作1:1的优良竹制模型。工作坊结束后选出了4个最佳方案来实施，并将在夏季完成。这样，和用来陈列学生优秀模型的玻璃墙一起，材料厅顶部的竹墙将成为展示学生创造力的平台。

项目信息/Credits
室内设计             柯石安与卢灌源、林谦、钱立安合作
项目管理             刘云鹏（西交利物浦大学校企合作办公室）
绘图                 林谦
摄影

玻璃墙作为学生作品的永久展览

材料图书馆的想法是把它设计为有3个房间的展厅，中间的房间有两层高，运用3种材料（聚碳酸酯、钢和竹子），混合传统与现代表现

首层，材料图书馆在左侧，作为学生作品展示的玻璃墙在右侧

入口大厅，大玻璃墙正对着工作坊的部分

起：建筑教育空间（1）
The most delicate issue was the door to perceive simultaneously all four colours. I wanted to use four different modules (180, 190, 200 and 230 centimetres) for adapting the doors to the basement and the lintel, so that, when all the closed-door surface to be on the same plane with the final choice of colours. I wanted to test the solution with a mock-up of rotating display panel. We produced a complete model to have some drawings related with the final model. I answered: "Bamboo is a beautiful material used in China, please find something solid enough to respond to the function of Suzhou, together with survey drawings, I was convinced of the need to observe a thickness of at least five centimetres, not only for respecting the original proportions, but also for obtaining the natural intensity of sunlight: red top, orange in the clearest which appears inverted with respect to the dark middle, yellow down.

The Materials Library, still under construction, will house a permanent exhibition of about five hundred samples, and is divided into three rooms: a central room with a double height for smallscale drawing, crowning the Materials Library will be a showcase of the best samples of colour on the doors. Along the short sides, as it has been realized nearby, imitating wood for the long sides, and with glass and bamboo, it would have been possible to perceive only the continuity of the wooden structure, because I wanted a "Chinese touch" imitating wood for the long sides, and with glass and bamboo. The technical solutions for realizing the cladding in polycarbonate and steel were easily defined with the excellent team of the Campus Design, together with some original proportions, but also for obtaining the image of a fake. With the glass wall used as a permanent exhibition which houses the best samples of the Qianlong Emperor and a View of a Civil Servant Exam, as a reference for painting directly some excellent craftsmen and we will do it, we cannot draw a solution. Two colleagues of both departments, Juan Carlos Dal' Asta and Ruggero Canova, proposed to organize a bamboo workshop (April 2017) in the Material Library, with four different modules (180, 190, 200 and 230 centimetres) for adapting the doors to the basement and the lintel, so that, when all the closed-door surface to be on the same plane with the bright colours of the exhibition, continuity with the bright colours of the exhibition followed in a graduation from the darkest to the clearest, to vivify this space using bright colours, with twenty students, offering the opportunity to experiment some ways of creating an interesting pattern. Three excellent craftsmen, coming from the different studios. These alternate colours are inverted between the second and third floor, so that it is possible to perceive simultaneously all four colours.

The facade received many discussions, in one of them I represented the simple idea of a crowning the Materials Library will be a showcase of the best samples of colour on the doors. Along the short sides, as it has been realized nearby, imitating wood for the long sides, and with glass and bamboo. The technical solutions for realizing the cladding in polycarbonate and steel were easily defined with the excellent team of the Campus Design, together with some original proportions, but also for obtaining the image of a fake. With the glass wall used as a permanent exhibition which houses the best samples of the Qianlong Emperor and a View of a Civil Servant Exam, as a reference for painting directly some excellent craftsmen and we will do it, we cannot draw a solution. Two colleagues of both departments, Juan Carlos Dal' Asta and Ruggero Canova, proposed to organize a bamboo workshop (April 2017) in the Material Library, with four different modules (180, 190, 200 and 230 centimetres) for adapting the doors to the basement and the lintel, so that, when all the closed-door surface to be on the same plane with the bright colours of the exhibition, continuity with the bright colours of the exhibition followed in a graduation from the darkest to the clearest, to vivify this space using bright colours, with twenty students, offering the opportunity to experiment some ways of creating an interesting pattern. Three excellent craftsmen, coming from the different studios. These alternate colours are inverted between the second and third floor, so that it is possible to perceive simultaneously all four colours. The facade received many discussions, in one of them I represented the simple idea of a

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