

The radical notion of Error

Letter from the director

In the years following the pandemic, it appears that many of us have consigned its memory to oblivion, as if it never occurred. Yet, that transformative period presented an opportunity to envision a new approach to learning, *UNIVERSITY of Universities: one that embraces differences, fosters collaboration, grants students' freedom of choice, nurtures horizontal relationships, and seeks spaces where genuine knowledge is cultivated.*

With each new semester, I find myself questioning whether the extraordinary experiences of that time belonged only to a fleeting moment - a transient pause in our fast-paced routines. However, beyond our *UOU* workshops, which form the foundation of our collaboration, there remains a wealth of collective experiences generated this very year. It may now be time to move beyond questioning the necessity of *UOU* and instead adopt it as an enduring attitude - a way of learning and living architecture.

A YEAR OF COLLECTIVE PRACTICES

This year has been a testament to the vitality of our *UOU* initiatives:

- Sofia and João (Évora) curated a remarkable exhibition showcasing the results of their *UOU* workshop co-directed by Luz, Eva, and José (Seville).
- Alberto and Beatriz (Porto), after leading their online workshop, travelled to Alicante for the final critique

and festival - a vibrant gathering where Alberto, acting as an Erasmus teacher, worked directly with his *REAL* international students (Fig.1).

- Similarly, Szabolcs (Budapest) visited Alicante for the festival, fostering camaraderie over several memorable paellas.

- Miguel (Madrid), meanwhile, prepared this new issue of the *UOU* scientific journal, *RADICAL FUTURES*, which is now gaining recognition in many countries, Mexico the most recent one.

- Precisely in Mexico, architecture students at UNAM, encouraged by Claudia (Mexico City), are requesting online courses from professors abroad, blending local instruction with international collaboration.

- The rich cultural exchange continued during a collaborative critique involving students from Mexico, Morocco, and Alicante, with Wafae (Fès) joining as a new *UOU* partner.

- An article in this issue of the journal details the work undertaken on Tabarca Island with Joaquín (Alicante) and *ERASMUS BIP* students. Preparations are already underway for the next workshop, focusing on the legal rights of a river in Belgium as an ecosystem with 'personhood,' co-directed with Christine (Louvain), Jane (La Réunion), and Arturo (Karlsruhe).

- The *EURAU* congress, organized by Marco, Anna, and Daniele (Milan), featured contributions from a diverse array of *UOU* participants: Angela, Yiorgos, Maria, Alessandra (Nicosia), Beatrice (Bucharest), Paola (Naples), Hocine (Bordeaux), Ozan (Istanbul) and Luna (Umeå), the organizer of the next *EURAU*.

- The *ProtoLAB* Summer School in Poland, led by Jerzy and Agata (Wroclaw), remains a hub of experimentation, with participants such as Mauricio (Izmir), Doina (London), Raffaele (Umeå), and Salah (Ankara) pushing the boundaries of design and materials.

Sánchez Merina, Javier¹

¹ Department of Graphic Expression, Design and Projects, Alicante University, Spain.
<https://orcid.org/0000-0003-1973-690X>
 jsm@ua.es

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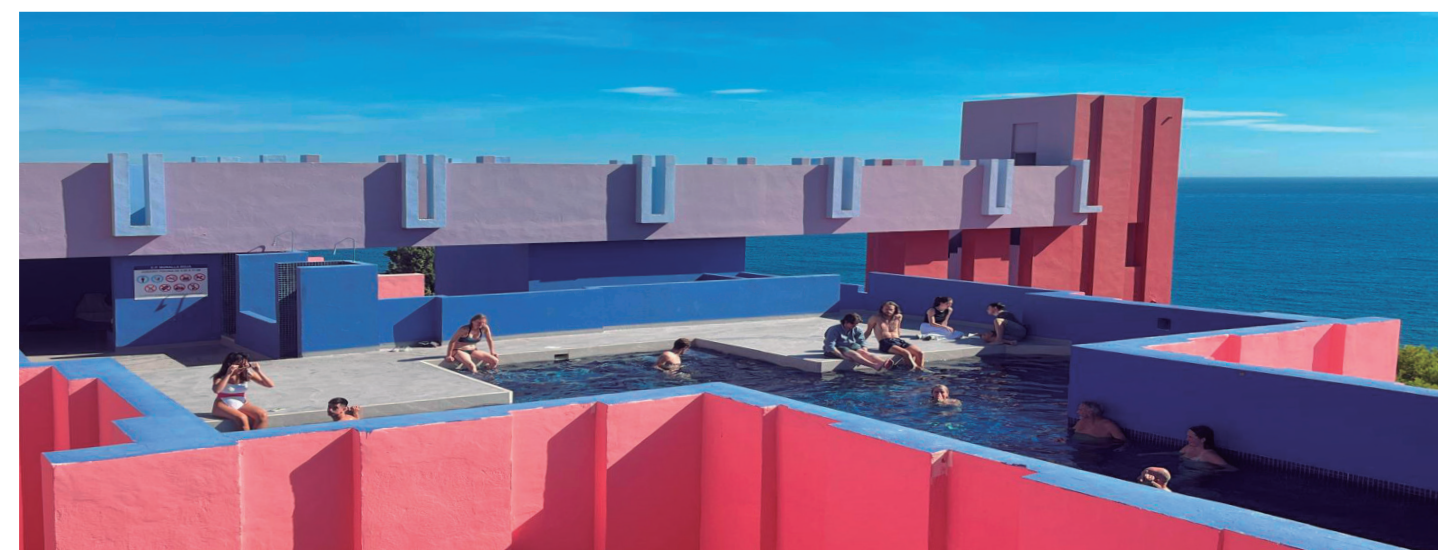


Fig.1 - Experiential crit with Alberto and Beatriz in *La Muralla Roja*, by Ricardo Bofill (Calpe, Alicante).

A PROTO LAB PERSONAL EXPERIENCE

In this introductory letter to the current issue of the journal, I aim to argue for the radical condition of our collective practices, drawing upon my experiences at ProtoLAB.

In the summer of 2022, I participated in this remarkable summer course in Poland for the first time. ProtoLAB, led by Jerzy, was structured into two distinct phases. The first phase was conducted online, where students were organized into groups tasked with designing and developing 1:1 scale projects. These projects emphasized social concerns and were complemented by daily lectures on building techniques. By the end of the first week, the students were required to finalize their designs and compile a detailed list of materials needed for construction.

After a one-week hiatus - during

which Jerzy and his local team of volunteer architecture students procured the necessary materials - the second phase commenced. We convened in a vast 2000-square-meter former tram depot in Wrocław, where all materials were meticulously organized. A lorry loaded with MAKITA tools, generously supplied by one of the workshop's sponsors, awaited us. The first day began with a safety class on the use of professional cutting tools.

As a participating instructor, I moved from group to group, assisting students with design challenges, construction methods, and assembly techniques. This methodology proved highly effective, as students assumed responsibility for their projects and managed their time to complete construction within the allocated week.

For the instructors, the process was equally enriching. The constant critique sessions fostered a collaborative learning environment

where we learned from one another. Yet, for me personally, the experience presented a unique challenge. As someone who greatly enjoys crafting my designs by hand, I found myself envious of the students' hands-on engagement. To address this, I utilized spare moments to create a series of small, personal projects, which I later gifted to participants.

Each day brought unexpected tasks that reflected the dynamic nature of the workshop:

- The First Day: We encountered a logistical challenge with the WUWA café, a historical institution built in 1929 as part of the modernist movement. The café's opening hours clashed with the workshop's schedule, making it difficult to begin work without a proper coffee and snack. To resolve this, we convinced the café owner to open earlier in exchange for a custom-designed serving tray. The design celebrated the laminated wood's natural patterns and incorporated specific diameters to accommodate

cups and plates, thus blending functionality with aesthetic appeal (Fig.2).

- The Second Day: A student approached me with a request to create a tool to simplify the application of glue onto cardboard panels, a method inspired by Shigeru Ban's designs for Ukrainian war refugee housing. Despite the extensive range of MAKITA tools available, none served this specific purpose. I crafted a custom tool, humorously branded in MAKITA's characteristic blue colour and logo, which quickly became a highlight of the workshop's creative improvisation (Fig.3).

- The Third Day: A ProtoLAB tradition is to host a multicultural dinner and celebration. Participants prepared dishes from their home countries, with our group contributing two types of paella. To honour Jerzy, the evening culminated in presenting him with a custom-made cardboard helmet, humorously dubbed "Captain Cardboard," which has since

become a cherished token among his accolades (Fig.4).

- The Fourth Day: Students began to see ProtoLAB as an opportunity for bespoke designs. One requested a ring to gift her boyfriend as a subtle encouragement for deeper commitment.

The result was a MAKITA inspired aluminium ring engraved with the letter "M," coinciding with the Polish initial word for love, *Miłość*. This simple yet meaningful gesture highlighted the workshop's blend of creativity and personal significance... and it worked! (Fig.5).

- The Last Day: For the final exhibition, a group that had constructed a portable tearoom needed a modular table for their tea ceremony. The design challenge was to ensure portability while accommodating eight people. Built in wood and painted in blue, the resulting MAKITA table was composed of four interlocking sections just secured by a tensioned cord. The yellow cord served as a

tribute to the Ukrainian students participating in the course, underscoring the emotional resonance of the workshop (Fig.6 and 7).

THE EVOLUTION OF ENGAGEMENT

My second year at ProtoLAB marked a significant departure from the previous experience. Jerzy introduced a new structure wherein each instructor became the dedicated tutor of a single group. This shift fostered deeper engagement with a specific project, but it came at the cost of the collaborative freedom that had characterized my first year.

On the positive side, this new approach encouraged a more horizontal relationship between instructors and students. As tutors, we were not only ideators but also implementers, responsible for translating our concepts into reality. This dynamic required careful consideration of the feasibility and



Fig.2 - WUWA tray.



Fig.4 - Captain Cardboard helmet.



Fig.3 - MAKITA spatula.

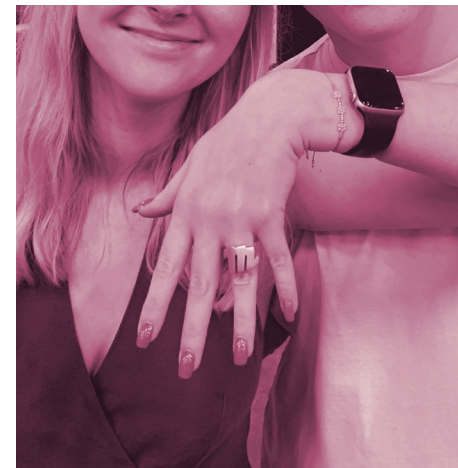


Fig.5 - MAKITA ring.



Fig.6 and 7 - MAKITA portable table.

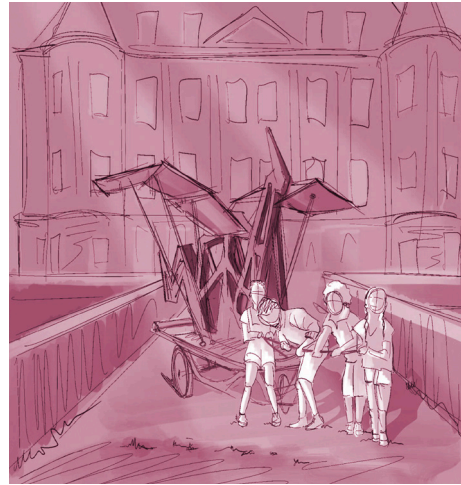


Fig.8 - The dragon pulled by children. practicality of our guidance, adding a layer of accountability to our roles.

My group was tasked with designing a pavilion for children, intended to be constructed in the garden of a castle. Our discussions often culminated in the same realization: static architecture might not captivate children's imaginations. This insight led us to embrace a childlike perspective, exploring how architecture could possess magical and dynamic

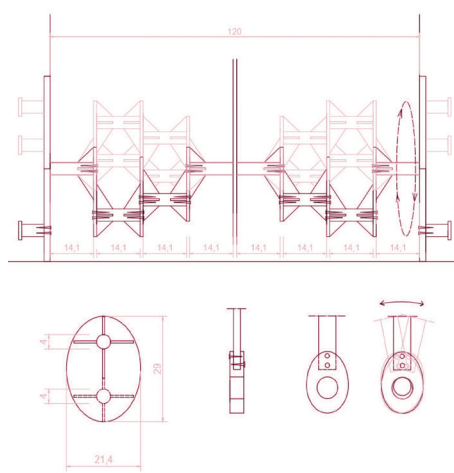


Fig.9 - Wooden crankshaft mechanism. qualities.

Our final proposal was an architectonic dragon - a mobile, interactive structure animated by the participation of children. The dragon was designed to be pulled by children, and in its movement, it planted tree seeds, as a transformation of urban spaces (Fig.8).

The project presented several challenges. The first step involved mastering the principles of origami

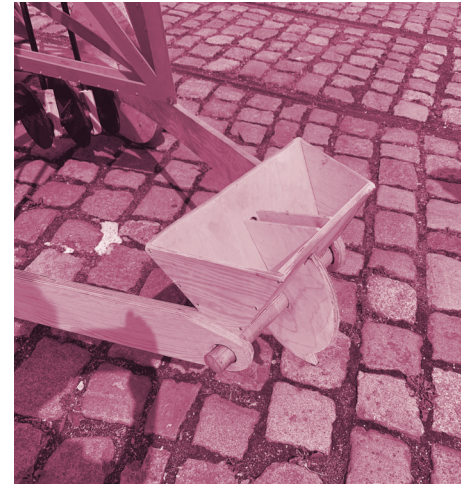


Fig.10 - The cogwheel planting seeds. to conceptualize the dragon's form. From there, we translated this into wood construction, incorporating a crankshaft mechanism to animate the dragon's wings.

Predictably, the wooden crankshaft broke during testing, necessitating multiple iterations to achieve a functional design (Fig.9). We eventually complemented the structure with a frontal cogwheel mechanism that facilitated the planting process. As the dragon

moved, the cogwheel created holes in the ground, allowing seeds to drop from a storage box, effectively combining whimsy with ecological purpose (Fig.10).

The culmination of our efforts was captured in a poignant image of children parading the dragon around the castle grounds in Wrocław (Fig.11). This parade has since become a cherished tradition, with the dragon now housed in the castle's basement, its new permanent home.

This experience underscored the importance of integrating imagination and play into architectural practice. By thinking as children, we were able to envision an architecture that not only delighted but also engaged with pressing environmental concerns.

The dragon now stands as both a testament to the power of collaborative creativity and an enduring symbol of ProtoLAB's innovative spirit.

SUMMER 2024 AND THE VALUE OF ERROR

The summer of 2024 marked the last ProtoLAB, a moment that naturally prompted introspection about our roles as educators. While the students were new, the recurring nature of the workshop led me to question how we, as teachers, could continue to bring fresh insights and challenges to the experience.

In a conversation with Jerzy, I came to appreciate the extraordinary atmosphere he had cultivated at ProtoLAB - an environment grounded in creativity, "learning by doing," and, more importantly, "learning by errors." Few institutions, including universities, truly value error as a constructive force. On the contrary, errors are often stigmatized, seen as failures rather than as opportunities. At ProtoLAB, however, errors are not only tolerated but welcomed. This perspective fosters an unparalleled

learning experience, empowering participants to take risks, explore the unknown, and embrace the intuition that often leads to groundbreaking discoveries.

One personal epiphany emerged during the construction of the dragon project the year before. Observing the strength of adhesives over the wood itself, I began experimenting with laminated wood. While traditional methods of lamination require complex technologies like presses and molds, I sought an alternative approach. Inspired by Antoni Gaudí's use of natural catenary curves in the arches of the Sagrada Família, I proposed creating a new form of plywood by layering and curving thin, 4 mm plywood panels. By combining three panels, curving them according to their natural tendencies, we developed a 12 mm material - without the use of molds (Fig.12 and 13).

To test this innovation, we set ourselves an ambitious goal: to construct a boat. A boat presents a



Fig.11 - Festival of children in Wrocław.



Fig.12 and 13 - Experimenting with plywood panels.



Fig.14 - Testing the structure with the telescopic components.

unique and rigorous architectural challenge, requiring not only strength and durability but also floatability, usability, and aesthetic considerations. This exercise would be a comprehensive lesson for architects and a celebration of ProtoLAB's experimental ethos.

Our boat, measuring six meters in length and capable of accommodating seven people, was realized through the collaborative efforts of an international team:

- Romance Al Sous
UCLouvain
- Talha Ulaş
Ankara Yıldırım Beyazıt University
- Tuğçe Ustaoglu
Ankara Yıldırım Beyazıt University
- Awa Trawally
Ankara Yıldırım Beyazıt University
- Dominik Gromek
Wroclaw Univ. Science & Technology
- Guided by Joaquín Alvado Bañón
Alicante University

The project also aimed to participate in the 49th edition of the *Vogalonga* in Venice, an event where more than 2,000 rowing boats converge on the Grand Canal to honour traditional navigation techniques and advocate for sustainable practices to protect Venice from wave damage.

To qualify for this event, we needed to ensure the boat was transportable. Thus, we designed it as a telescopic structure, with pieces that could be disassembled for travel (Fig.14). This added another layer of complexity, requiring solutions for both structural integrity and watertightness. We devised a tongue-and-groove system, where the two outer panels were longer than the inner one, effectively creating a sandwich structure. We also leveraged the natural expansion properties of wood when exposed to water, which sealed the joints and ensured buoyancy.

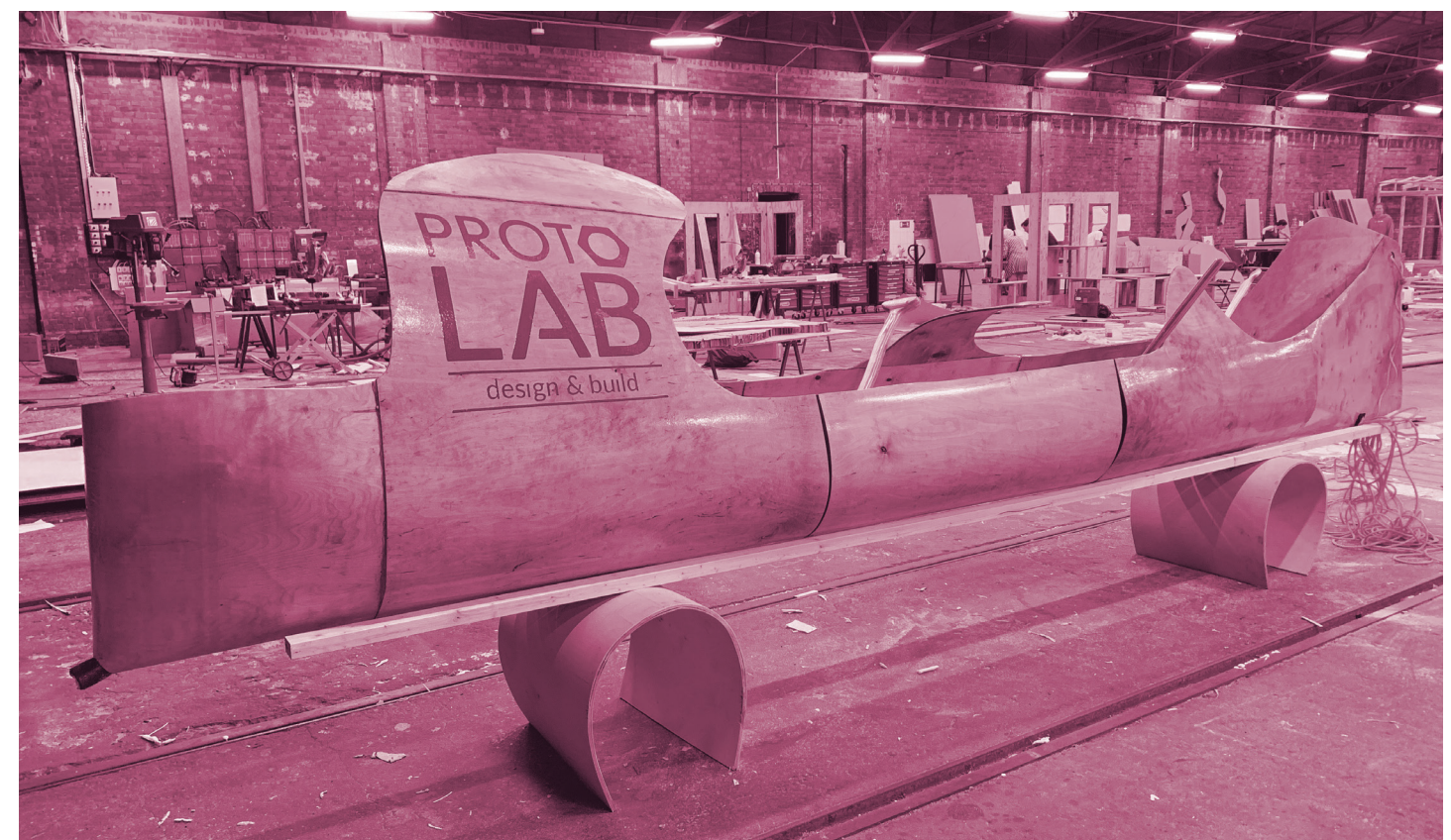
As well we tested the boat in one of Wroclaw's many canals. It floated - but too much! (Fig. 15, 16 and 17). The boat's light structure made its weight negligible compared to our

bodies. This imbalance resulted in instability, a problem that required further study of key principles such as the centre of gravity, centre of buoyancy, centre of flotation, vertical centre of buoyancy (VCB), longitudinal centre of flotation (LCF), and longitudinal centre of buoyancy (LCB). After analysing these principles, we resolved the

issue with the addition of a bulb keel. This solution provided the necessary counterweight, lowered the centre of gravity, and stabilized the boat, ensuring it would perform as intended.

None of this would have been possible without the ProtoLAB environment, where permissible

error allowed us to iterate, break materials during testing, and refine our ideas through failure. Jerzy Latka's approach nurtures not only creativity but also resilience and innovation, proving that risk and experimentation are the true engines of learning.

Fig.15, 16 and 17 - ProtoLAB boat ready to travel to the *Vogalonga* in Venice,.