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Jewellery multiplicity: digital architectures.

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/ Jewellery Multiplicity: Digital Architectures

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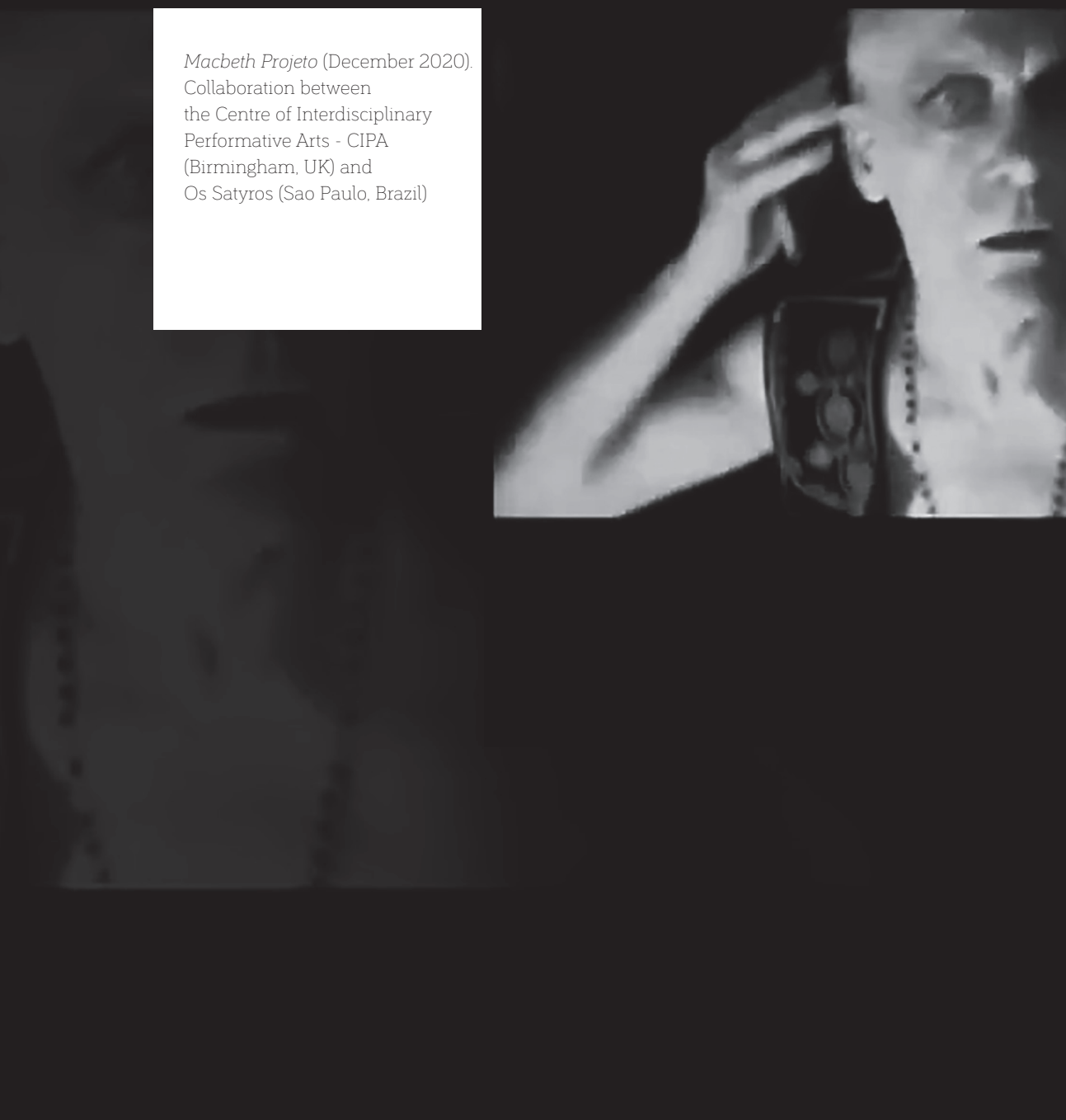
This paper presents a live project developed with students of architecture, landscape and Jewellery at Birmingham School of Architecture and Design in 2020. This project took place in the context of a module called Co.LAB (collaborative practice) that is part of the curriculum of eight different courses at Birmingham School of Architecture and Design. With the breakout of the Covid-19 pandemic, we had to quickly adjust our teaching environments to the tools available to be able to continue the development of our teaching and professional activities. This digital transition, also created difficulties for practitioners to showcase their work, especially the ones that required a more physical or tactile approach, as in the case of jewellery making or installation art.

This paper examines the creation of digital pedagogical environments that bring together students and academics from different disciplines to construct creative dialogues that can be applied to the creation of knowledge in various fields; architecture amongst them. Architectural education has been at the forefront of pedagogies based on the way Architects work in their practices – studio culture – new interdisciplinary approaches demand new strategies to include professionals and students from different disciplines.

Macbeth Projeto (December 2020).
Collaboration between
the Centre of Interdisciplinary
Performative Arts - CIPA
(Birmingham, UK) and
Os Satyros (Sao Paulo, Brazil)



Migration to digital pedagogies

As a performance designer, my first digital spatial experience was with the project Macbeth projeto (December 2020). After a series of conversations with the artistic team, it was clear that the role of the designer had shifted from creating an environment where the action took place, to define transitions, characters and even thinking of multiple simultaneous spaces. We no longer had a unique space were the audience and the performers will share the experience. Now we had a multiplicity of fragmented spaces in different locations, and an audience member that was in a totally different space, and in many ways out of our control.

Figure 1.
Macbeth Projeto (December 2020). Collaboration between the Centre of Interdisciplinary Performative Arts- CIPA (Birmingham, UK) and Os Satyros (Sao Paulo, Brazil)

After this experience, I continued to explore collaborations with practitioners of different disciplines that involved space, with the objective of defining how that digital transition of space could be dealt with. In 'Jewellery Multiplicity' we

explored different ways in which Jewellery can be displayed digitally. Breaking away from the traditional Jewellery exhibition, we used different media to investigate the relationships between Jewellery and space beyond the body. Projection, lighting, video and augmented reality were applied towards the development of live/virtual event. We developed an interdisciplinary collaboration in the design of a digital installation piece that brought different disciplines together breaking the boundaries in between them. This project explored the possibilities that augmented reality opens up in the inhabitation of Jewellery pieces and its consideration as an architectural artefact.

The key questions defined at the beginning of the project were:

> How can we create a transition from a 3D space into 2D Space?
> How can we still recreate a spatial experience without being physically in a space?
> Can we make audiences experience space digitally?

This interdisciplinary methodology was triggered by the consideration that learning and teaching in Higher Education has different layers, it is not only about knowledge transmission or knowledge exchange, but also about experience and participation and educating our students in a broader way, making them professionals working within their environmental conditions (social, cultural, economical, etc.) that are able to undertake different challenges and develop their problem-solving skills. This is supported by Prof. Craig Mahoney who states, in Gibbs (2010: 2), 'higher education should be a transformative process that supports the development of graduates who can make a meaningful contribution to wider society, local communities and to the economy'. We need to make our students independent and capable of finding solutions for the obstacles they will encounter, being able to find information resources, as the different disciplines evolve

and what we teach today will be out of date soon. Interdisciplinar education brings a more contemporary approach to human knowledge: 'the organisation of human culture by disciplines belong to the past. But remains a necessary point of departure in the advance towards domains of knowledge that involve new practices and changing styles of individual and collective life' (Guattari, Vilar, FFG ETO5-13 :3).

From a pedagogical perspective, the project's objective was to set up interdisciplinary pedagogies between architecture, jewellery and performance by connecting jewellery pieces to spatial narratives developed by the students. As Barthes observes, interdisciplinary begins "when the solidarity of the old discipline breaks down…in the interests of a new object (Barthes, 1977:155). Interdisciplinarity can also be defined as *two or more disciplines … contributing their particular disciplinary knowledge on a common subject* (Garkovich, 1982:154). We need to cultivate students' curiosity, and this is achievable by highlighting the overlaps between different areas of expertise, exploring collaboratively new fields and pushing the boundaries. In addition to this, we can affirm that Higher Education isn't always linear, it needs to be transversal, bringing different disciplines to the creation of knowledge.

Interdisciplinary education is directly linked to experiential learning and the application of constructivist methodologies. As Keeton and Tate state, in experiential learning '…the learner is directly in touch with the realities being studied… It involves direct encounter with the phenomenon being studied rather than merely thinking about the encounter or only considering the possibility of doing something with it' (Keeton, Tate, 1978: 2). The creation of environments – situations where the students engage with a live project – has emerged as an essential condition for our interdisciplinary teaching method.

Digital architectures : design proposals

I was the leader of the project *Jewellery multiplicity* which I coordinated in collaboration with Lucas Hughes (Senior Lecturer in Landscape Architecture – Birmingham City University) and Sian Hindle (Associate Director for Doctoral Researchers, Birmingham Institute of Jewellery, Fashion and Textiles – Birmingham City University). During the module we set up a series of lectures and seminars that supported students during the different phases of the project. On the first session the students were given the following brief and guidelines:

> 'In this project we will be exploring different ways in which Jewellery can be displayed. Breaking away from the traditional jewellery exhibition, we will be using different media to investigate the relationships between jewellery and space beyond the body. Projection, lighting, video and augmented reality will be applied towards the development of live/virtual event. We will be exploring scale, and the possibilities that augmented reality opens up in the inhabitation of jewellery pieces and artefact.'
>
> Create a virtual digital experience of the jewellery pieces.
> How would you offer a digital experience of the jewels?
> How would you approach the project if it was an installation set up in a gallery space?
> How can that be translated into a digital format?
> What is the experience that you will be offering to your audiences?
>
> Possible outputs could be:
> - Storyboards
> - Video/ Animation
> - Collages/ Photomontages
> - 3D models

The students were allocated in interdisciplinary groups where Jewellery, Architecture, Interior Design and Landscape students collaborated together. All the sessions were taught online, as well as the group interactions. For each of the groups the starting point was the jewellery piece that the jewellery maker had designed. Each of the pieces had a different focus, not only in terms of their formal qualities, but also due to the research and concepts that had generated them.

The design and development of digital atmospheres were and essential consideration in this project. The architect Peter Zumthor delivered a lecture entitled Atmospheres in which he describes the existence of atmospheric qualities in space:

> I enter a building, I see a room, and – in a fraction of a second – have this feeling about it. We perceive atmosphere through our emotional sensibility – a form of perception that works incredibly quickly, and which we humans evidently need to help us survive.
> (Zumthor, 2006 : 13)

Zumthor begins with the question, What is the magic of the real? Zumthor finds the magic of the real world fascinating, with atmospheres already created that we experience every day. Therefore, he asks how we can imitate and create atmospheres based on the observation of reality. Zumthor lists a series of elements that compose and influence the atmosphere: the body of architecture, material compatibility, the sound of a space, temperature, the surrounding objects, between composure and seduction (referring to the time necessary for the experimentation of space), the tension between interior and exterior, and the light on things. These elements are necessary to define atmosphere. However,

is it possible to create a digital immersive atmosphere without the experience of space? This was one of the key aspects that were present in the final outcomes.

Each of the groups focused on different aspects of the spatial experience; scale, atmosphere, materiality. Within these parameters, the students started to devise different ways of engaging users and audiences on a digital experience around the jewellery pieces.

One of the key elements of the project was to understand how the digital approach to space created new conditions that determine the way in which individuals and collective audiences engage with space and objects. In digital environments collectiveness becomes essential, as individuals generally engage with the digital content through screens in their own spaces. And within these parameters; how does digital architecture impact on this relationship between people, spaces and objects.

The Brazilian artist Helio Oiticica defines the term 'Supra-Sensorial' to describe 'environments' that could be perceived by all senses. These environments would articulate all the elements that the artist perceived in the urban reality, mapped and transformed into an artistic experience for the audience. When we think of a digital experience, the audience still have an experience of their own space but how can we transform their perception to bring them into the artist's space? This project allowed us to experiment with the manipulation of the senses, creating immersive experiences for dislocated and fragmented audiences.

The first design was highly influenced by the material quality of the jeweller's creations. The focus of the jewellery maker – Wanshu Li - was on capturing the light and how the materials had a presence on the space. Borrowing elements

from installation art, exhibition design and performance practice, the students created an augmented reality experience accessible through smart phones and other devices. In this case the experience is visual and encourages the spectator to engage with their own device with the experience of space. The design proposed by the students was a virtual installation where the jewellery pieces will colonize the space creating a striking atmosphere where gravity – or the lack gravity – played an essential role.

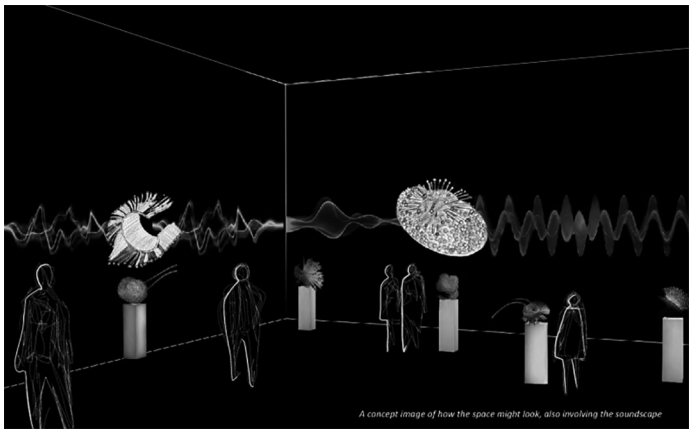


Figure 2.
Digital experience proposed for Wanshu Li's jewels designs. You can scan the QR code to access the digital design.

Having a similar approach to the digital experience through augmented reality, the second group explored the manipulation of the scale of the jewellery Pieces. The jewellery maker – Elina Pollit – created a piece with inspiration in architecture that was possible to inhabit when the scale was changed. The multidisciplinary team, imagined different possibilities of inhabitations based on the relationships between the body and the piece. After the students defined the different experiences that they wanted the audience to have, they created an animation where the relationship between the audience and the piece

will change. This experience was based on the illusion that we can manipulate through digital tools the scale of the audience to show different multiple perspectives of an object.

> The design of the maze was inspired by the triangular forms of Ellina's neck piece. The connected triangles form solid walls which the users must navigate their way around in order to make it out. Initially the maze was placed within a box in or-der to stop people from wondering out, however in a VR world there are no limitations and wed decided to create the perimeter of the maze the same way we created the rest of the walls.

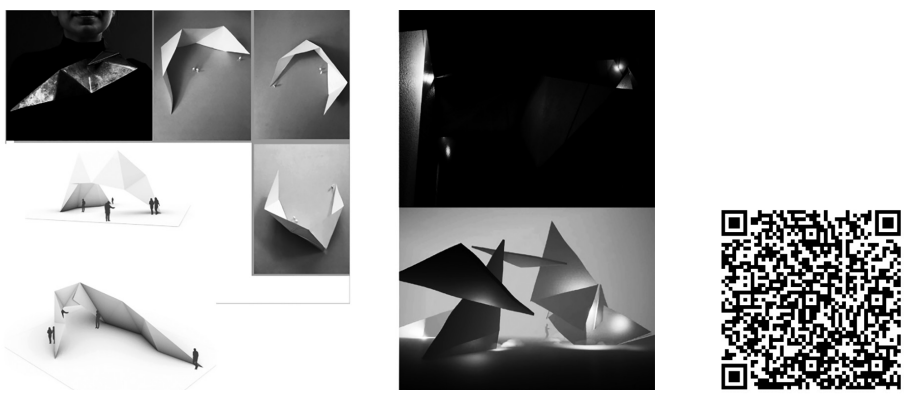


Figure 3.
Digital experience proposed for Ellina Pollit's jewels designs. You can scan the QR code to access the digital design.

The last proposal presented a shamanist virtual experience inspired by the pieces designed by Tai Teng. Shamanism and materiality were the central elements of this digital experience.

> Inspired by natural elements and shamanistic rituals, the wind-chime earring marks the presence of spirits. It marks the passing of spirits as the wind moves the earring and creates a wind-chime sound effect. The verticality of the earrings and natural material suggests the image of tree trunks, an inspiration for a site-specific location of the AR/VR experience taking place in a forest or similar outdoors setting. (Extract from students' portfolio)

This proposal was especially successful on the application of strategies that supported the immersive experience of the audience. The soundscape and the narrative created by this group led the audience through a rich variety of sensorial stimuli. The image below shows the use of storyboarding as a technique to map the spatial events within a timeline. The format of this storyboard based on the ones developed by the film director Einsenstein allows also to design a multi-layered reality that focuses on different aspects of the spatial experience. Using this tool, the designers were able to emulate a supra-sensorial digital environment – in reference to Helio Oiticica's concept- evidencing how as designers we are able to generate a holistic sensory experience digitally. You can access the final experience on this link: https://youtu.be/VwSc2LhlINM

The storyboarding corresponded to the scoring part of the creative process – RSVP cycles - undertaken by this group of students. The RSVP Cycles are annotations (using examples of musical scores) of creative process development; they are not fixed results but transitions from which to create an action that can be artistic and any human creative action. Resources (R) are an essential starting point referring to the material used for improvisation and the emotional and physical resources performers use to work with, individually or in a group.

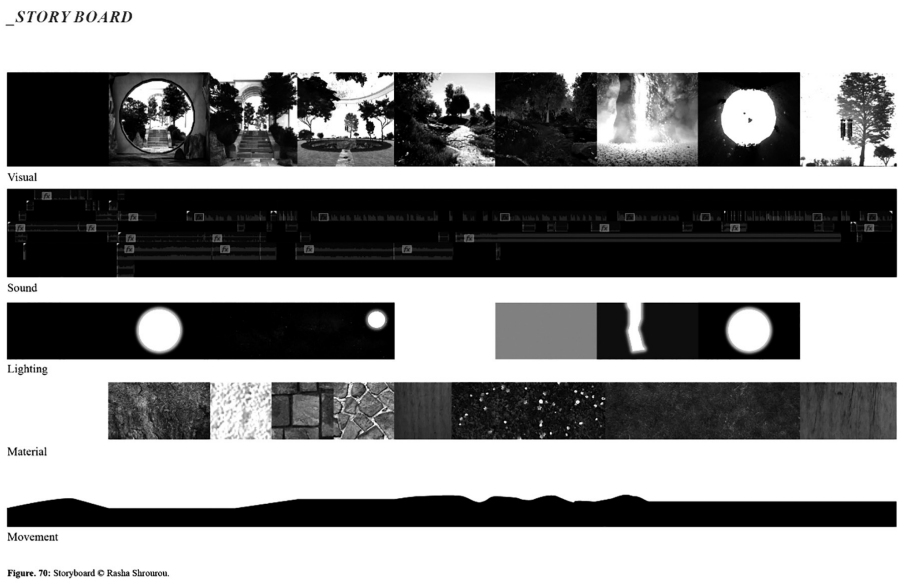


Figure 4.

Story board that scored the digital experience proposed for Tai Tengs's jewels designs.

The scores (S) are at the centre of The RSVP Cycles describing the process of making rather than the final product. Halprin defines scores as "symbolisation of processes which extend overtime" and "instructions for the work". The term 'Valuaction' (V) is action-focused; it joins two words to suggest looking for a value in the scores (actions), "a process of dynamically responding to work based on values". 'Performance' (P) refers to action, resulting in the improvisation process of "setting the work in motion". Cycles were a perfect synergy of body and space, an essential element of group performativity and the origin of devised theatre pedagogy, providing performers/students with multi-vision and a strategic outline from which they can develop their work. (Dundjerovic, 2007).

The use of RSVP cycles for the analysis, design and development of a digital design experience allowed us to define an interdisciplinary teaching environment. The creation of environments – situations where the students engage with a live project – has emerged as an essential condition for the development of design research with innovative experimental conditions.

Towards a pedagogy of digital architectures

This article raises many questions in relation to the transformation of the architectural spatial experience to a digital experience. All of the proposal presented have undertaken thorough investigations on how to represent and communicate space digitally. In contrast to architecture visualisation, this project aimed to offer an experience based on a narrative where the different senses – not only sight – played a key role. Following the premises stated by Juhani Pallasmaa on his opus *The eyes of the skin*; although the digital world is predominantly visual, there is an opportunity for the exploration of the engagement of other senses. However, it is essential to have a good understanding on how each of them works. Through the evaluation of space and the user's journey from a sensorial approach it can be possible to explore new ways of digital immersion. The use and training on digital skills is essential to articulate these experimental digital spaces.

Finally, the collaboration between different disciplines has enabled the designers to evaluate and respond to the brief from a multidisciplinary perspective that have led them to the consideration of different scales and approaches. The outcome of this project evidences the potential that the digital tools have in the development of architecture. It also suggests not that distant futures were new technologies – especially the ones being developed within the field of video games design – can be applied to the communication of space.

In making of a pedagogical environment experiential learning is essential for digital architectures. This supports the need for the development of new teaching and learning strategies that offer interdisciplinary arenas for experimentation. The experiential approach to teaching and learning has as a direct impact the employability skills of the graduates which encounter a world were disciplinary boundaries are disappearing.

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Biography

Dr Maria Sanchez is an Associate Professor of Architecture and the Course Leader of the BArch (Hons) Architecture at Staffordshire University. She is a qualified Architect in the UK (ARB/RIBA) and in Spain and has a professional background in performance design. Maria's design and arts practice has been presented at the Museum of Contemporary Art Reina Sofía (Madrid, 2012) in the Prague Quadrennial of Scenography (2015, 2019), the Dance Biennale of Venice (2016), or the Biennale of Architecture of Venice (2018). Maria has extensive experience in interdisciplinary experimental teaching in Architecture undergraduate and postgraduate programmes, focusing on collaborative live projects.