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Architecture Design Crossovers

The programme of my building is a research centre for natural fibres in the built environment, based in Madrid.

At heart, it consists of two intertwined topics. The first is an extensive research into a Spanish type of grass called esparto, and its potential both as a building material and as an effective way to fight desertification in Spain. Therefore, it aims to restart an esparto industry in the country and to raise awareness around the plant's untapped potential in addressing this very pressing issue. On the other hand, the project is also about the link between designers and producers of the ornament in architecture, with the aim to bring back a feasible ornamental practice in architecture. These twin topics serve as the conceptual bedrock of this year and have guided my research.

This duality is also reflected in my method of work: the more tangible research into esparto has led to material tests and models being produced to determine the viability of the grass as a building material. These are ongoing but show great promise, specifically a new variant of hempcrete based on the Spanish grass. Much remains to be done however, specifically regarding the viability of the material within a practical structural system.

The second aspect of my work is more theoretical. While massing models have been produced as well as many sketches and hand-drawn design iterations, much of the research into the ornament and its producer has revolved around the research paper. Its conclusions have guided the design, as knowledge gained through many interviews and readings has been shaped into a myriad of details. Both research topics are deeply architectural and are thus a logical choice for my MSc Architecture. Indeed, the topic of the ornament is a central theme to the discipline, as well as a very current one, while material research and the expansion of the architect's palette are important in this field.

The main issue concerning my methodology is that I still haven't elaborated an effective theory for the ornament's use in contemporary design. Therefore, there is margin for improvement within my design, as the conclusions from the thesis are distilled into designs. Equally, my material testing is done according to the facilities available and my limited skillset as an architect. A chemist and a structural engineer would probably disapprove of my approach, as it lacks the rigour of their disciplines: as generalists, we are primarily concerned with the whole picture and less with the particulars of material properties. Indeed, any interest from different disciplines into this topic would be welcome: engineers could help solve structural issues and scale up material use, while chemists or biologists could find new uses for this abundant, under-used grass.

Ideally, continued research into the project's topics could serve two main purposes: firstly, it could lead to a regain of interest for esparto and its uses. Secondly, it could serve as a catalyst for ornament use in the built environment, perhaps leading to more beautiful, meaningful designs being produced. Overall, the project stands for an architecture that is conscious of wider issues impacting society and searches for ways to address them from within our discipline, with climate and the search for beauty as twin essential topics.

Going forward, the aim will be the development of a whole structural system based around natural materials and esparto specifically. On the longer term, this research will hopefully inform my designs and help others use the ornament with greater confidence. Two main research questions will guide the project further:

1. How can the esparto be part of a wider structural system that responds to today's issues?
2. How can the ornament be produced and implemented in our current context, to produce a viable architectural language?