

# SPACE BLANKET

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## ABSTRACT

**Space Blanket** is a malleable fabric-like fragment. This element is often referred to as a 'geometric protoplasm': a simple grid system with a slippage mechanism, offering fluid properties.

I have delved abstractly into the realm of surfaces and structures whilst discovering the individual's desire to mould one's own space.

This work challenges conventional ideas about *constructed space* versus *dynamic space*. The intention is to question psychological experiences and memories of personal space.

Have we failed? Have we truly entered the technological millennium? New vistas have been forged yet, have we fully embraced or even shared our new-found technology? Would we dare to challenge our discoveries, our triumphs?

Can we honestly state that we have accomplished a deeper, richer sense of life? What has prevented this merging of insight? Would we base our arguments on inertia - ignorance?

We have witnessed an explosion of knowledge. Yet, I often wonder and search for human insight. Are we being sensitive to the human condition? Or have we desensitise, de-digitalise ourselves from the physical and spatial environments?

Are there alternatives or risks between contemporary technology and cultural impoverishment? Today, communications between the disciplines seem necessary to preserve the vision and maintain the human [humane] experience - the idea and the feeling.

To me, interactivity is both a collaborative process + product.

The root of this work and exploration is based on creative

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inspiration. I looked to the moment when the scientist, architect, engineer develops a seemingly simple idea further. The inventions of Frei Otto and Buckminster Fuller particularly demonstrate a historical instance when an idea becomes a manufactured norm – the assembly of the unit.

The project began in a workshop then moved to a '*collaborative research laboratory*'. Essentially reversing contemporary processes. Present-day discourse tends to look to the computer screen + digital outputs when speaking about concepts of fluid space. Today we are experiencing an influx of the intangible digital environment phenomena [Greg Lynn, Hani Rashid]

Particular to my interests, initial explorations led to a search for surface and structure. Also, I began investigating the close links between art and science. At the point of interest where, the hybridisation of science and art become closer to design.

In John D. Barrow's book *The Artful Universe* he speaks about how science and art are two things uniquely human. To quote from his book: " *They witness to a desire to see beyond the seen. They display crowning successes of the objective and subjective views of the world. But while they spring from a shared source – the careful observation of things – they evoke different theories about world: what it means, what its inner connections truly are, and what we should judge as important.* "

Mr. Barrow attempts to diverge science and art in a way that things are admired rather than explained. In the similar spirit I would like to present in the manner of diverging and admiring.

Initial investigations began by questioning the logic of physics - *constructed space*. The nature of building has been mandated with convention: straight walls, rigid frames, the essential laws of physics

Existing construction methods were challenged while; materials were manipulated by hand. The tactile registers the memory/experience then; the subjective personal informs and pushes the evolution and discovery hence, *the surface structure response*.

Traditionally surfaces speak about volume and delineate

*constructed space* - the journey began by challenging the concept of surfaces. The quest for dynamic surfaces lead to an increase in questioning of conventional building materials whilst forging towards a new architecture, a new experience.

Can surfaces do more, be more? Be part of the more holistic humane experience? Can we explore the interactive tactile experience?

By addressing the physical feature of a material, we can begin the exploration.

### Science + Nature

I became intrigued by contemporary theories and discoveries made in Nature and Science.

Initial interests were looking at how things in nature arrange themselves - recognising repeated patterns and designs found in nature. While the aesthetic creations and artistic metaphors were the initial draw, however, I began to further study the theory of design.

Both Kepler and Einstein have judged their theories not just on data but on the kind of order they produce. The discovery was equal to the design.

The creation of natural pattern and design has become an exploration from genetics to computer stimulations. Interestingly, this is a movement away from the traditional route of studying the abstract theories of physics and mathematics.

Today contemporary sciences rely on the use of the concepts of design and pattern in computer simulation and calculation. Complex and geometric structures are constantly being explored.

As for myself, I began delving into structural formations found in nature. Carefully examining nature's microscopic structures. In particular, the intricate latticework of Venus's flower basket sponge, a grain of salt to complex systems formed in various spider webs. This interest and research has led me to discover and study work related to geometric structures.

Here are the following examples of current interest:

Dr. Penrose, an Oxford University physicist researching 'tiling'. Dr. Penrose devised various pairs of complementary 'tiles' - parallelograms that can be laid on a flat surface with their edges joined. Essentially, covering a flat surface with no gaps between the tiles. The patterns formed have endless variations and do not repeat themselves.

A further development of Dr. Penrose's work was the discovery of recent data announced by Dr. Steinhardt and

his colleagues on quasicrystals. Dr. Steinhardt notice the possibility of building a three-dimensional structure analogous to a smooth, gapless surface covered by two-dimensional Penrose tiles.

Quasicrystals are found in alloys, aluminium and transition metals. Physicists have long been interested in why atoms form complex patterns. The evidence found the atomic jigsaw puzzle, in which identical pieces are allowed to overlap each other to form complex structures. This new data is questioning the traditionally known rules of geometric relationships.

The above research is complement to the studio work. Here, I would I like to introduce the 'space blanket'. As well as, introduce some areas of architectural applications and theory.

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In respect to Gottfried Semper, I am influenced by the moulding capabilities of materials, and the concept of a *petrified fabric* found in bricks and tiles. The work thus far, has been involved in material metamorphosis.

I now look to the '*first architects who wove their walls*', in hopes of furthering the links between architecture and the fibre-arts.

My research looks at theoretical ideas and representational concepts in architecture and the fibre-arts. Surface, structure and motion are concepts I work with. I have been bridging both the theoretical and the practical by way of inventive technologies.

C. Stanley Smith wrote in *A Search for Structure*, speaks about the less widely known historical facts of the first discovery of useful materials, machines or processes has almost always been in the decorative arts. To quote: 'Discovery requires aesthetically motivated curiosity, not logic, for new things can acquire validity only by interaction in an environment that has yet to be.'

Finally, my attempt was to give an overview of general themes of the *Space Blanket*.

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My research looks to valuable insights into existing and emerging practices of design and technology. Often my questions probed into the transition from what is learned from studies of work and to the social interactions

experienced. The relationships between technology and the individual are customarily neglected. It is my aim to move towards human-centred design.

This work challenges conventional ideas about *constructed space* versus *dynamic space*. The intention is to question psychological experiences and memories of personal space.

My interest in kinetic fluidness allows for form to move within a multitude of purposes and context. In essence, my

aim is to create malleable adaptable environments by way of incorporating technology with new material specifically addressing memory and experience.

Summation of the work: The micro-read as fragments of art. The macro-read as hybrids prototypes of functional architectural fragments.