



Figure 1. *Cellulight*, derived from the form of a gliding parachute, 1997, aluminium, perspex and light fittings, 180 cm (length).

Vast Terrain: Exploring Uncommon Ground

I am currently involved with the *Vast Terrain* project, which was instigated by Form Contemporary Craft and Design in Western Australia. The project is a unique collaboration between arts and industry through the partnering of Form with Alcoa World Alumina Australia. The *Vast Terrain* project explores and celebrates the various cultural meanings of aluminium in relation to contemporary Australian design. The exhibition of this project shows an intimate enquiry into the practices of three of Australia's metalsmiths, whose careers have been characterised by a spirit of experimentation and innovation with the material of aluminium – Frank Bauer, Robert Foster & myself. This exhibition is currently touring Australia, having opened at Form in Perth, and then at Object Gallery at the Sydney Opera House. *Vast Terrain* will be shown at Museum Victoria in Melbourne before travelling to the Jam Factory in Adelaide in 2006.

As an artist, I work primarily with aluminium and I explore and extend the possibilities of this material in my practice. Since its discovery, aluminium has been linked to innovation and new technology, especially in its application within the aviation industry. The lighting works for my *Aeroware* series tapped into that symbolic resonance of the material. The works were all primarily referencing aeronautical paraphernalia.

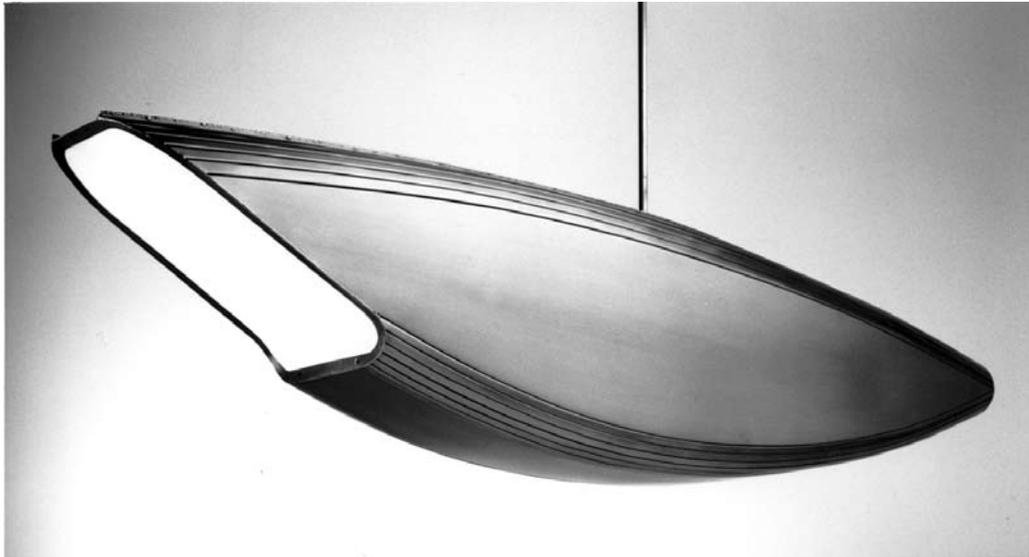


Figure 2. *Ramplamp*, based on the engines slung under the Concorde, 1997, aluminium, perspex and light fittings, 180 cm (length).

Figure 3. Andrew Last with his *Calyx Light*, referencing both a particular kind of jet engine intake and a distinct floral form, 1998, aluminium, perspex and light fittings, 120 cm (length).



Cellulight (see Figure 1*) was, for example, derived from the form of a gliding parachute; while *Ramplamp* (see Figure 2) is based on the engines that are slung under the Concorde. Along the way – through their interpretation and construction – the objects began to assume some organic qualities as well. The concluding work in that series was *Calyx Light* (see Figure 3) which initially came from the shape of a particular kind of jet engine intake. However, through its interpretation it took on quite a distinct floral form. “Calyx” is the Latin word for cup and if all the petals are removed from a flower the remaining element is called the calyx. The work is a deliberate amalgamation of both aeronautical and botanical inspiration.

* Images courtesy of the artist.



Figure 4. *Pincushion Lights* and *Banksia Light*, 2004, commission for Taxi Restaurant, Federation Square, Melbourne, aluminium tube and light fittings, 60 and 120 cm diameters.

This work signalled a shift of primary reference from flying machines to botanical growing mechanisms. The immediate outcomes of this shift were the *Pincushion* & *Banksia* lights (see Figure 4) – spherical forms interpreting the shape of Australian flora in aluminium tubing. These works represent a design solution stemming from an investigation of the geometric structure of spherical flowers. A further investigation into that geometry led to an awareness of Phyllotaxis, a pattern of plant growth characterised by intersecting spiral geometry, clearly demonstrated in the formation of seeds in a sunflower (see Figure 5).



Figure 5. The formation of seeds of a sunflower.

The works for *Vast Terrain* reflect a respect for harmonic systems inherent in the plant kingdom and the mathematics used to interpret them. The design process generates a visual response to the mathematics of Phyllotaxis. The mathematics that explain and forecast such patterns is related to the numerical series, the Fibonacci Sequence (in which each successive number is the sum of the preceding two: 1, 1, 2, 3, 5, 8, 13, 21...) and the constant Phi (the Golden Mean, a number approximately equal to 1.618). The rhythm of the pattern, and its accuracy and order, are emphasised and the way this contrasts with an apparent collapse toward the centre of a circular formation (or the poles of a spherical geometry as realised in the *Phiball* light – see Figure 6, the culmination of the exploration of this pattern in three dimensions).



Figure 6. *Phiball Light*, 2005, aluminium, 120 cm diameter.

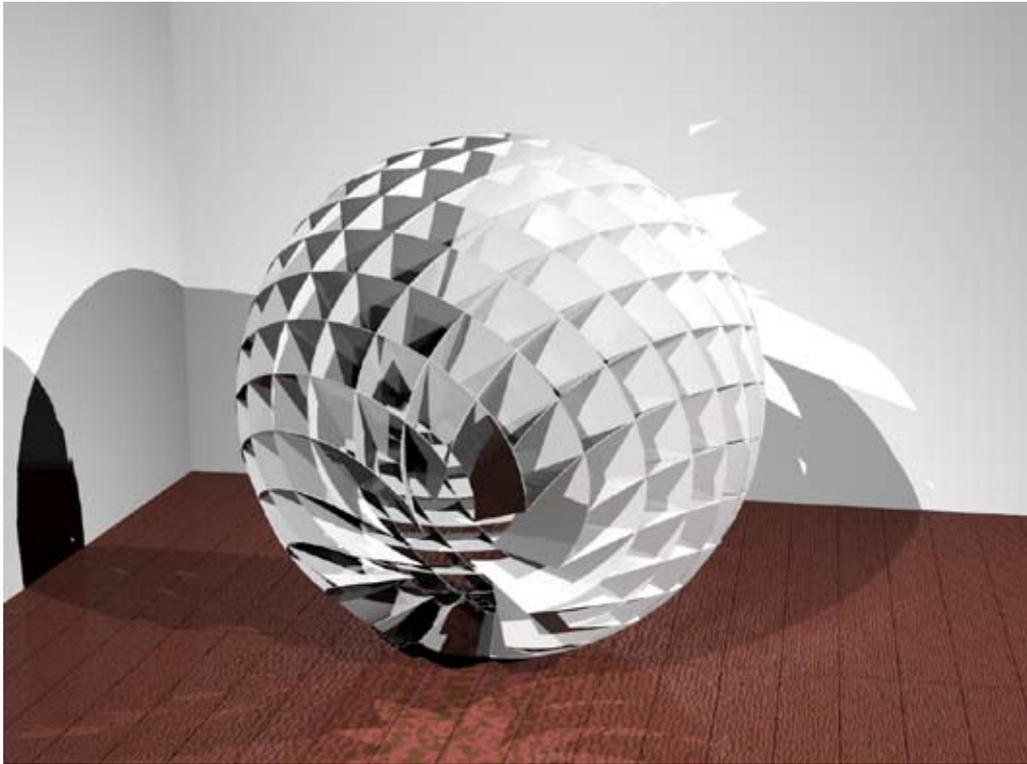


Figure 7. *Phiball*, 2004, CAD drawing using Rhino Software.

My design process makes extensive use of computer modelling programs. Building on a decade's experience with computer-aided design (CAD – see Figure 7); the *Vast Terrain* work incorporated the program *Xfrog* (see Figure 8), stumbled across midway through the project's development. Devised for digitally 'growing' plants for use in architectural modelling, the program allowed a manipulation of the Phyllotaxis pattern which satisfies my formal curiosity and aesthetic sensibility. The pattern was then translated into other programs for further exploration. From the modelling phase, the forms were then developed into a variety of objects, such as the jewellery, bowls (see Figures 9 and 10) and light (see Figure 6 again) created for *Vast Terrain*.

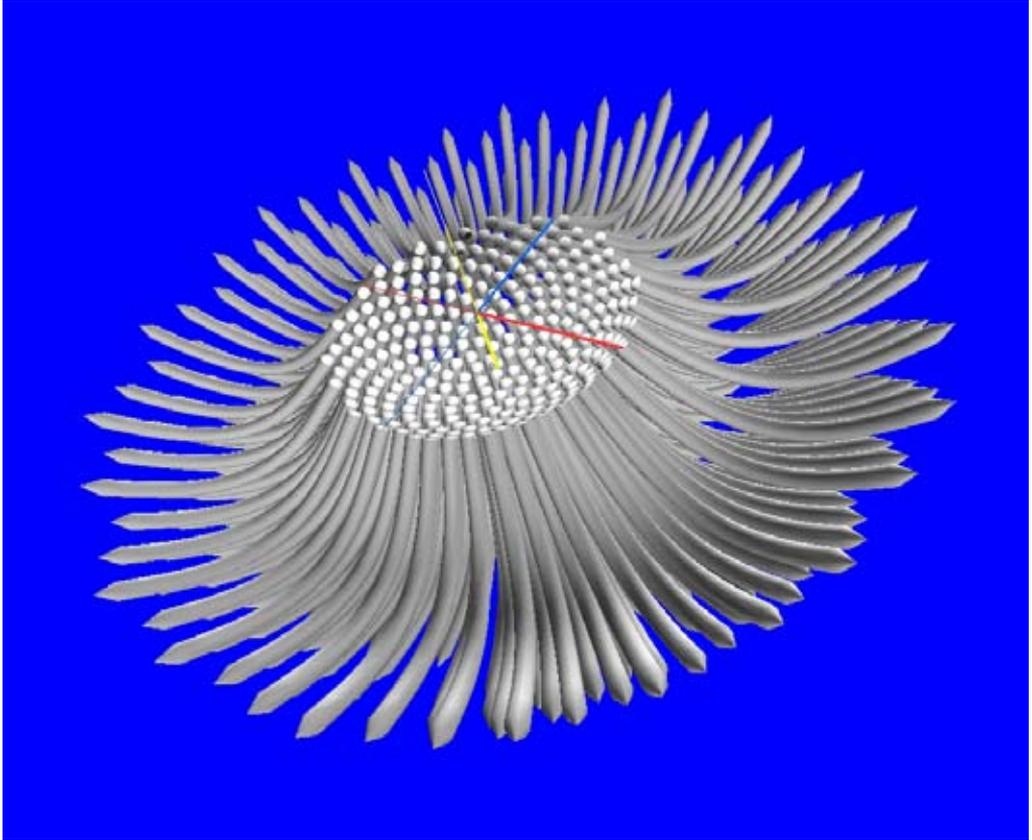


Figure 8. *Computer Drawing*, 2004, using Xfrog Software.



Figure 9. *Phibowl* (detail), 2004, aluminium, 50 cm diameter.

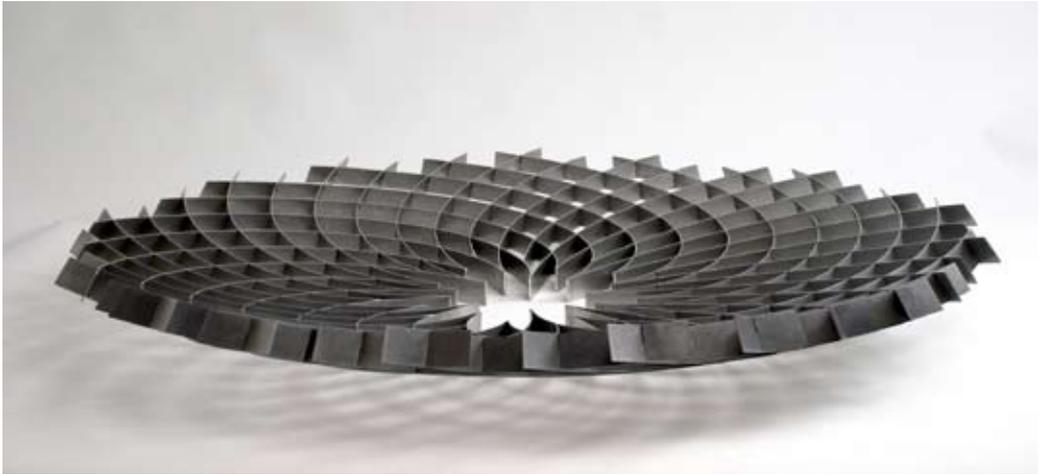


Figure 10. *Xiphi Bowl*, 2004, aluminium, 120 cm diameter.

Andrew Last is an Australian metalsmith, currently living and working in New Zealand. He has employed aluminium in the production of jewellery, homewares and lighting designs for the past decade. Initially enrolling in Materials Engineering at Monash University during the early 1980's, Last did not complete the degree, but has subsequently translated his understanding of engineering technology into his creative practice. He undertook a Bachelor of Fine Arts in Gold and Silversmithing at the Royal Melbourne Institute of Technology and worked extensively with aluminium during 1988 whilst undertaking a craft traineeship under leading Australian jeweller, Susan Cohn, whose own work with the material has redefined the symbolic position of aluminium within contemporary Australian design.



Andrew Last at work in his metalsmithing studio, 2005.

Since graduation, Last has exhibited in Australia, New Zealand, Korea, Japan, England, Germany and the United States and has undertaken numerous guest lecturer and guest speaker positions. He returned to RMIT in 1992 to complete his masters degree. His critically acclaimed *Aeroware* series of lighting designs went on show at Object Galleries in Sydney, Wagga Wagga Regional Gallery and at RMIT in Melbourne, from 1998 to 1999. Since 2001, Last has been based in Dunedin, New Zealand, where he is a lecturer in the Jewellery and Metalsmithing Department of Otago Polytechnic School of Art. Last is represented in numerous collections including the Art Gallery of Western Australia, Queensland Art Gallery, The Museum and Art Gallery of the Northern Territory and the Australian National Gallery, Canberra.