Natural business in New New Zealand

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Where does New Zealand design come from? It is debatable whether there is something that you can definitively call New Zealand Design. There is design from New Zealand: things that have been designed in New Zealand, made in New Zealand or manufactured by New Zealand companies. But it could be argued that there is not point in trying to distinguish between design from different countries, as the term 'New Zealand' has been created in the last half century to belong to an international style. Most companies sell their products in a global market and therefore cannot afford to design just for a home market. Many New Zealanders would say that there is something special about New Zealand design: that a product from New Zealand can be identified as such. But what is it that makes up this New Zealand feeling, aesthetic and sense of place?

In his book 'Looking at Art in New Zealand', Peter Tomory suggests that:

'the New Zealand aesthetic is different to that elsewhere. This statement is based on the premise that aesthetic appreciation is determined by visual experience: that as we go through day-to-day life, we acquire a visual vocabulary of the natural and man-made forms that surround us. It is a vocabulary that is particular to New Zealand and that helps to explain the nation’s artistic identity...'

Tomory used the term 'totem' to describe these visual contacts in New Zealand:

with its few cities and fewer architectural landmarks, the land still provided a great number of the 'totems' by which New Zealanders developed their aesthetic measurements. The lack of European manufactured and imported the impress of the landscapes; he concluded, produced a unique New Zealand aesthetic. (1)

Travel around New Zealand and you will see kilometre upon kilometre of green landscape, pastures, rolling hills, volcanic terrain, trees, islands and sea. It is probably this landscape and life within it that has, over time, contributed to the formation of the New Zealand national mind and New Zealand design. It could be said that New Zealand design comes from the landscape.

In 1999 leveraging of the landscape and its natural beauty, Tourism New Zealand branded the country as '100% Pure'. In its award winning advertising Tourism New Zealand uses images of the landscape to reinforce the brand story. But is this the kind of image contemporary New Zealand should be portraying?

In January 2007, New Zealand design, innovation and business magazine 'Idealog' published an article called 'New Zealand Meet the New You'. In this article author Jake Pearse argues that New Zealand needs to portray itself in a far more innovative and contemporary manner: 'the "100% Pure" campaign plays to this stereotype...this paradigm spreads of white mountains and white beaches reinforce the perception that we do little more that raise cattle and run up mountains for kicks. (2)

New Zealand is struggling to live up to the '100% Pure' image economically, environmentally and socially. Business pundit Rod Oram states:

'socially: we’re fast losing our competitiveness in the commodities that dominate our exports; our current account deficit equals ten percent of GDP.

environmentally: our urban lifestyles and rural farming practices are putting unprecedented pressure on out natural resources' (3)

Jude Hooson director of market strategist The Providence Report believes that: 'the defining issue for New Zealand’s economic future is our ability to apply our best minds and creative talents to our environment'. Hooson suggests:

'we have a deep biological economy with 70% of our exports traceable back to our industries of land-based innovation. The bottom line driver of our wellbeing and competitive advantage is our ability to make nature work for us and land-based innovation is our version of Finland’s Nokia story.' (4)

'Brands with global interest will carry the New Zealand value of sophisticated simplicity' (5)

Undoubtedly if New Zealand is to remain competitive in the global market place and not allow the '100% Pure' image become its Achilles heel, it must manoeuvre itself in a position to fully realise and truthfully capitalise on its brand built upon the purity of its businesses, land and conscience.

BioChair - Out Of The Landscape.

The BioChair project began in early 2009 and is collaboration between Unitec and the Crown Research Institute Scion. The idea of combining wood with polymers in the design of a piece of exportable commercial furniture was seen to offer the opportunity to bring together the ‘naturalness’ of New Zealand with industrial design to create an innovative and original product that could express the New Zealand aesthetic was different to that elsewhere. This statement is based on the premise that aesthetic appreciation is determined by visual experience: that as we go through day-to-day life, we acquire a visual vocabulary of the natural and man-made forms that surround us.

From the researchers perspective, the area of commercial furniture production provided an excellent opportunity. The new contemporary country brand those such as Pearce and Hooson argue is needed. Furthermore, the BioChair project aims to create and commercialise the first product made entirely from New Zealand wood and biopolymer material formulated in New Zealand. Like most other countries, is beginning to see a growing introduction of bioplastics in the global plastics industry is expected to grow from less than 100,000 tonnes a few years ago to a level approaching 1 million tonnes by 2010. (5)

From the researchers perspective, the area of commercial furniture production provided an excellent opportunity to develop new biomaterials as it is a specific example, where material characteristics required are common to many other applications. Wood is a natural resource with qualities that are in demand by an environmentally aware society. It is renewable, biodegradable and has a green image not enjoyed by other materials (such as metals, concrete and plastics).

The challenge is to enhance the value of wood by providing uniform performance without compromising its green image. Increasingly polymers will fill this role. Polymers are compounds made up of simple, identical repeated units. They are uniform, predictable and can be designed to form structures with specific properties. By combining wood and wood fibres with polymers, the renewability and biodegradability can be retained while improving the variability and stability in service. (6)

From experience gained in the furniture industry, the researchers were able to define the initial focus of the chair project. It was decided that the target product would be a fixed height, 4-leg chair which is traditionally used in waiting rooms, conference rooms, chairs to be brought out for special functions or a more basic meeting room chair. The market is large and the requirement of visitors chairs, less demanding than that of book office seating.

BioChair - Natural Business in new New Zealand.

Roger Bateman, Department of Design, Faculty of the Creative Industries and Business, Unitec NZ

The Market:

The US market for office furniture in 2008 was an estimated 12.9 billion. Worldwide, furniture manufacturers that have investigated eco sustainable furniture production have tended to focus on the recyclability of high-energy embedded technological materials rather than on the utilization of renewably sourced biopolymers that have a wider range of 'end of life' options, even including composting. (6)

Next:

Design work undertaken between Unitec and Scion seeks to prove that commercial office furniture can be made using biopolymer material formulated in New Zealand. Working with Scion, polymer developments have been laboratory tested for mechanical properties, commercial moulding possibilities and end of life options explored, such as recyclability or composting. Design solutions are currently being refined and scale models produced for evaluation. In parallel to this a 50KG batch of Scion formulated biopolymer is currently being made. An injection moulded chair part made from biopolymer will then be tested for structural durability to NZ IAU commercial furniture standards.

References:


Solid modelling of the BioChair using rhino.

1:1 scale models will be tested for manufacturing technologies and overall aesthetics.

Poster below was created by CA specialist Daniel Kellnerberg from Scion showing biopolymer using Cradle to Gate method.

Environmental impact of novel biopolymers - a "laboratory to industrial scale" case study

Idealog

Introduction and Goal

The market for office furniture in the USA is estimated to be 12.9 billion. It is well known that furniture manufacturers that have investigated eco sustainable furniture production have tended to focus on the recyclability of high-energy embedded technological materials rather than on the utilization of renewably sourced biopolymers that have a wider range of ‘end of life’ options, even including composting. (6)

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