

Marketing claims that miss out on the truth



Michael Braungart

How about the sulfides and lime used in unhairing and liming? And the wetting agents to ease the hides into processing? Are these mysteriously no longer chemicals, along with deliming agents and pickling acids? Having got this far do we now really believe that the vegetable dyes were used without chemical mordants or in fact does the colouring of this chair come from the natural colour of the vegetable tannage? And if so what happens with the used liquors from this tannage? Are they miraculously free of BOD and COD, suspended solids and the sort of dissolved salts that have damaged the ground water and aquifers in so many tanning regions of the world?

'No chemicals', 'organic', 'eco'! Frankly no tanner should even dare to use such terms related to any leather made with current technology. Playing the fine line between what is illegal and what is irresponsible, or using misleading statements because they are PR, is not appropriate behaviour for an industry – even if it thinks itself very special.

The leather industry just cannot afford to make these claims any more. Manufacturing leather is an important business. Over the years – long after the industry should have known better – tanners were still trying to cheat the system. They got into the habit of dealing with industry issues in a 'less than transparent' way.

As a result, in our major industry bodies, the acceptable approach was to evade issues about the raw material used, the processing being done, the chemicals used, and the environmental problems. Our trade associations prefer to leave

'This chair is made from vegetable-dyed saddle leather: no chemicals are used and the colour only gets better with use.' This is a recent claim from the English daily newspaper, *The Guardian*, so it must be true – or is it? Mike Redwood reflects

those battles to be fought between the pressure groups and the big brands. As a consequence the leather industry has no voice in the supply chain and more often than not, it has only a small profit margin to match.

Occasionally, other bodies have tried to become the 'definitive voice' of the tanners but they have usually been chasing short-term commercial goals and have made little impact.

Of course a trade body doing its job would have to be impartial. It cannot condone tanners who misbehave. So as well as telling the scientific truth to those who use leather and benefit from its value, they would be in a position to advise tanners, rawhide dealers and chemical suppliers.

If we do not do something, it will not only be red paint over the windows of Gap stores in New York but having to deal with society as a whole. Governments, such as in China, have lost all patience with tanners and are coming down on them hard for failing to install or run proper effluent treatment plants.

The need for good, honest science

Understanding the processes and raw materials we use would be a good start. Stopping tanners putting out false claims about one tannage being 'good' and another 'bad', and saying their approach is 'environmentally friendly' would be a very good start.

The leading Outdoor brand, Patagonia, was so confused with these unsupported marketing claims that they decided instead to try and buy only from tanners that had undertaken ISO14000 approval. Care has to be taken even here, as ISO 14000 is sometimes more of a promise than a reality.

All tanners love the smell, the feel and the look of well made vegetable-tanned leather; but just to say a leather is vegetable-tanned rather than chrome does not make it good.

Tanners taking trees for tanning over the centuries have decimated mangrove swamps, oak

forests and other places. Back in the 1850s it was said in the USA that a medium sized tannery used nearly a square mile of hemlock trees per annum. In a little less than a century US tanners had removed all the trees from Boston's north and south shores, exhausted the Catskills, used up the Adirondacks and moved on to the far north and the mid-west.

When the United States Leather Company were formed in 1893 by more than 100 vegetable tanners, their primary asset was the large forest lands they owned. Tannages that require the decimation of large numbers of trees, and then create wastewater loaded with organic material with a huge oxygen demand cannot expect to be automatically classed as good just because they do not contain chromium.

Dr Heinz-Peter Germann, talking at the 2008 UK Society of Leather Technologists and Chemists (SLTC) Conference at Telford, noted that 40 kg of bovine pelt would require 14.3 kg of mimosa to tan it, or 8.5 kg of white syntan, or only 3.2 kg of chrome. He noted that because the chromium uptake was better, it pushed out much less organic matter into the effluent.

Unusually for such a conference there were cheers when he propounded that given today's technological knowledge 'chrome tan using the best techniques can be classed as environmentally competitive.'

Using our intelligence

Most of what we see today is as a result of pressure from the consumer, the brands and the law makers for tanners to limit the negative impact they have on the planet. An approach termed *Cradle to Cradle* reverses this and argues that through intelligent design we eliminate the whole idea of waste and instead of doing 'less harm' do positive good.

Our current way of doing things was born in the Industrial Revolution when the world population was under two billion and all the resources we were

using seemed infinite. We could use up materials at will and not worry about damage to the land and the rivers.

As population and industry have grown, we have put industry and commerce in conflict. That is the argument of Michael Braungart and William McDonough in their book 'Cradle to Cradle – remaking the way we make things'.

They put the emphasis today back on designers and ask that materials scientists interface with them with integrity and present sound science. Anyone listening to Braungart talk about beautiful design cannot help but be impressed by what can, and indeed has already been achieved by this approach.

But to make things beautiful in Braungart's terms designers have to be careful about the materials they use and think about the appropriate life of an article and about what will happen when it is discarded. For as long as the leather industry has battled to prove that leather shavings, trimmings and discarded finished articles, constitute safe landfill, still we have never considered that this involves the one way use of chemicals.

We have always assumed that chrome in the earth was adequate for hundreds of years (although some recent calculations suggest we have less than 40 years' supply left). For many other materials the supply is even more critical. And chrome tanned leather just does not break down in landfill, and most other tannages take a long time to break down as well.

Everything is a nutrient

Michael Braungart models industrial systems on nature's nutrient flows. The concept is that we view all materials as either biological or technical. A pure biological material returns to the earth and becomes a nutrient for plants, trees and all things organic. A technical nutrient needs to be removed from the article and can be reused.

Now we know that some materials are safe to use and



Michael Braungart, Cardiff March 2008

some less so and tanners have been changing and adjusting materials used regularly over the last fifty years. Most of what is currently used is quite well understood. One or two of the new chrome free systems must be excluded from this generalization as they are still the subject of examination.

For chrome, there is an argument that in landfill chrome in leather or leather waste may convert to Cr VI. Most evidence would deny this but the sensible route would be to plan to remove chrome entirely and recycle it back into industry.

The leather protein left would be perfectly suited to be returned to the land as a nutrient or could be incorporated into leather finishes or cosmetics as long as that second use keeps the protein in a nutrient cycle.

Recycling which takes chrome leather uppers after use and

grinds them up for running tracks is well intentioned. It is, however, just holding off putting the material into landfill for a few years and in whatever form it may end, the chromium is doing no good in the running track – the running track is a euphemism for a landfill. This, according to Braungart, needs to be defined as ‘down cycling’, whereas the removal of the chromium and its return to industry is better described as ‘upcycling’.

Right now is a good moment to look at tannages and consider how long they last, how long should they last, and what happens at the end of life of an article made of leather.

Leather Futures Research Group

The new Leather Futures Research Group at the University of Northampton

which brings together the many University areas from product design to environmental science that impinge on the leather area is actively looking for funds to follow this line of study. The first project has been financed and will begin early next year.

The project accepts that leather, and modern chrome tanned leather in particular, is chemically designed to work to other industry standards of environmental degradation. It can be degraded for recycling by chemical or heat treatment, but this is not ideal from a green perspective and it requires specific effort.

What is required is auto-degradable leather, analogous to the starch based biodegradable supermarket carrier bags. The problem has been highlighted by several motor manufacturers, who require all components in a car to be recyclable, and is relat-

ed to the newsworthy problem of discarded shoes.

Basic to Cradle to Cradle is that designers start with materials which are understood and sound not only for the job in hand but for a longer life in one way or another, a perpetuity that does not involve sub-optimal end uses of landfill. Designers influence over 90% of the environmental impact a product will make, and they can create business approaches that have a positive effect on their surroundings. Products can be created which can be either returned to the soil or come back to industry in a continuous cycle.

Most of our current thinking lies around trying to do less harm, having a smaller carbon footprint, and producing less CO₂. From Braungart's point of view this does not make sense. According to him current ‘sustainable design is guilt management’ – not a lot different from saying we should not eat Mexican food because we will produce more methane.

The Oak Tree and the Ant

Two examples often cited are the ants which have an enormous population size and a huge mass many times that of humans, but who do good (in the main) to the planet as all the waste they produce is nutrients. Similarly the oak tree has a big carbon footprint producing a huge excess of leaves and nuts compared to its actual needs, but since it is good ‘waste’ the planet enjoys it.

Tanners are generally proud of taking an organic byproduct and maintaining and enhancing its properties for the enjoyment and service of society. Cradle to cradle research would give an opportunity to properly address those goals. ■



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