

In the last issue of World Footwear, we looked at various aspects of recycling as they directly affected the leather and footwear industry as a whole. However, recycling is only a way of reducing existing environmental problems and, in the manner in which it currently takes place, is unlikely to fully resolve those problems in the long-term. So, could there be another answer for industry in general?

Food for thought

'Cradle to cradle' is the succinct title of a book written by William McDonough and Michael Braungart in 2002 propounding a revolutionary viewpoint with regard to current global manufacturing practice. It also suggested a radical new approach as to how we should perhaps begin to rethink our attitude to manufacturing industry and consumer products as a whole.

It is not that manufacturing is bad and the environmental lobby is good they say, but that the origins of industry and the outcomes of the industrial revolution were founded on meeting short-term needs before considering the long-term implications. So, we have accidentally designed unexpected implications for our planet and its future into many products.

'Cradle to grave' is the term they used to describe our current manufacturing philosophy and they want to change it to 'cradle to cradle'. In last issue's Focus Feature, one way of recycling footwear was shown to be its second-hand use in poor countries. This is nothing new, as in 18th century Europe, only the relatively wealthy could afford new shoes. Yet the enthusiasm with which this is being carried on is now leading to the closure of small factories and creating unemployment in many parts of Africa. So it is not easy to balance unemployment in Africa with a landfill disposal problem and an ever-greater consumption of natural resources.

The truth is that as the world's population and overall standard of living continues to grow, we are indeed biting the hand that feeds us by consuming the world's natural resources. This has not been a problem in the past as supply was

"Do we focus our research on enlarging them into apartments or miniaturising people to fit."

sufficient to cover demand.

The balance has now changed and, with the enormous industrial growth of Asia feeding the ever-hungry appetite of Western consumers for cheap products, we face a very real chance of running out of raw materials. The greater this volume becomes, the more natural resources we consume in every respect, the more waste we have to dispose of, and the more environmental damage we inflict.

Alternative thinking

So what else can we do? Well, the authors would have us consider a radical rethink of our whole attitude to consumer products as a good starting point.

It really all depends on our view of the world around us. Our ancestors lived with the land and within the confines of what it was capable of supplying. As we developed through the ages, so we learnt how to exploit it to deliver ever more in order to reduce the degree of effort we needed to expend in order to support ourselves in greater security and comfort.

This change was relatively gradual until the Industrial Revolution of the 19th Century since when it has grown exponentially. Now we grow more food at ever-lower prices by extracting essential nutrients from the soil and replacing them with chemicals. We extract all the minerals we can find that are suitable to produce industrial and consumer products and extract all the oil we can find in order to produce energy to

make and power them. There is a finite limit to all natural things. Natural resources that took millions of years to form are being consumed in less than a few hundred.

The downside of recycling

The problem here is that no matter how hard you try, it is difficult to retrieve the initial raw materials that went into producing the original product. An automobile is a good example. You can separate all the different components and melt them down in one way or another but you still end up with materials that are, to some degree, contaminated and therefore lose value. Add the cost of the processing needed to do this and it becomes more expensive than using new raw materials, so they are essentially lost.

McDonough and Braungart refer to these materials as being 'nutrients' that combine essential foods for both industry and nature itself. Let's take shoes for an example. Footwear was originally made wholly from leather, which was produced from natural animal resources using natural vegetable-based tanning agents and dyestuffs. As such, once a pair of shoes had finished its lifecycle—including multiple ownership ►



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— it was thrown away to biodegrade and so return essential nutrients into the earth.

Yet, as the world population grew the demands for vegetable tannins grew and we saw a decimation of forests in Europe and the USA. Indeed when the US Leather Company was formed in 1893 as the world's largest company at the time and one of the founding companies of the Dow Jones Index, its greatest asset proved to be its oak bark producing forests. While vegetable tanning certainly has its place, with the huge requirement on material and the heavy BOD load produced in the effluent, few would recommend bringing it back as the

primary tanning material. New thinking is required. It is time to think out of the box.

Life cycles

We are all familiar with the expression 'life cycle' with regard to industrial products. Consumer demands and changing life styles have led to a reduction in product life cycles and even to the 10-week 'season' as opposed to the traditional two season routine of the fashion world. Clothing and footwear expenditure may be decreasing in the OECD countries as a proportion of consumer spending, but it is not that we are buying less. Indeed we are buying

more items for less money and as a consequence throwing more away.

So, how can we change and try to live within the confines of our world as part of it and using its resources in ways that are sustainable rather than merely draining them away? Will it take a global disaster on an unimaginable scale before this can actually take place? How can we possibly manage without oil and its industrial derivatives? One day, not too far in the future, we will have to.

Back to nature

We say that waste does not occur within nature and that everything is re-used in some way. This is a generalisation worthy of consideration, but not always a sustainable argument. The world has moved in and out of ice ages over the years and the balance created has not always been comfortable. Indeed that is the issue for some at the moment, who would have us not worry about global warming. Their view, loudly contradicted by almost-all scientific opinion, is that this is just part of another long cycle.

The footwear industry starts well in that its primary raw material, leather, is an infinitely renewable resource. While hides and skins taken from animals can be left to putrefy back into the land, it would be hard for us to do this in a clean and safe way in many regions and, in doing so, we lose a valuable raw material and source of protection and protein.

Some of the current ongoing work in Europe's leather industry is intended to create a 'closed loop' tannery option in which every item in the tannery can become the cradle for something useful. Those involved met at the ECCO plant in Dongen, Netherlands, last year to discuss some positive mid-term outcomes. These cover changing the chemicals used in tanning towards a more biological and less bulk chemical process, more recycling, innovative uses for waste, and the production of biogas. Even if only some of these objectives are reached it will be a big step forward.

In some ways the Netherlands can give the rest of us a vision of some aspects of the future at least. A small, quite densely populated country, where the water table is close to or at ground level across most of its area, the Netherlands has no more space to dump landfill. Sites are steadily being closed and businesses with solid waste to dispose of must find alternative

A MESSAGE FROM THE BUILDER: APOLOGIES FOR THE DELAY !



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Footwear is a tough proposition. Focus lately has been more on health issues for workers and wearers in terms of the use of safe solvents and cements, and leathers that are free of toxic materials such as certain dyestuffs and aldehydes. In the shoe factory some materials such as leather trimming and cork can be recycled in various ways but other materials require further work.

In terms of the finished article the Nike Reuse-A-Shoe programme that collects used athletic shoes of any brand from any wearer is perhaps showing the way forward. Shoes in good condition are donated to charity. Others are processed, separated and granulated into Nike Grind, which is in turn used to make surface material for athletic courts, tracks, fields and playgrounds.

Packaging

Packaging is one of the biggest offenders where waste is concerned. Just think of the volume of plastics that are used and the energy needed to process them. In the UK alone, supermarkets give away over 17.5 billion plastic bags a year—how many is it in the world as a whole and where do they all end up? Multiply that by all the other forms of disposable packaging and the scale of the problem becomes staggering. Whatever happened to the traditional shopping basket?

There is also no imperative reason for shoes to leave the shop in a box. Shoeboxes could then be made collapsible and returned to the factory for re-use and so remain within the industrial loop of re-use. Let's face it, Europe ships plastic bottles to China for recycling, so why not the boxes that China sends its shoes over in? One or two companies are making moves in this direction and others have started to show interest. Clarks ran an extensive research programme with Pira to find an optimum solution that satisfied its customer expectations and Keen Footwear in its short life has focused hard on what might be done in this area.

Products as services

One highly original concept propounded by McDonough and Braungart is that of a 'product of service'. Instead of consumers owning and then disposing of a consumer product, they would in effect have the use of it for a

defined period after which it would return into the manufacturing chain. Cars and televisions are prime examples, where their purchase would entitle only so many miles or hours of use before they had to go back. While such a concept would not be easy to implement, it could provide a real long-term payback.

Several advantages are envisaged. Fewer raw materials would be consumed as they would be continually recycled back into the same type of product. Products would cost less, as the consumer would not have to pay for all

the wasted materials as at present. There would be no reason why they should not go into updated products, as the basic materials of most products do not change that much—it's more a case of how we utilise them.

As far as footwear is concerned, we also need to find a way to create soles that can be easily disassembled from the upper and re-processed into further new soles of a different design. Add that to biodegradable leather from closed loop tanneries and re-usable boxes and we have a pretty clean industry. Any takers? 



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