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Practical Recycling

Two Companies Making It Work

RADIUS: Toothbrush of the Future

In the early 1980's, two architects living on Tortola in the British Virgin Islands made the decision to move away from architecture and "find an area of life that needed improving". They shortly arrived at the toothbrush - an implement that had remained virtually unchanged since the 1950s. Appalled at the small headed hard toothbrushes of the day, they became fascinated by the idea of a functional and enjoyable toothbrush. Research indicated that the major problem in oral hygiene was one of compliance-people didn't use toothbrushes for long enough and tended to keep their toothbrushes for too long. Dentists believed that with diligence, teeth and gums could be perfectly maintained for a lifetime. So the two partners set out to make a toothbrush that was comfortable, efficient and fun to use.

They carved their prototype out of wood, and the RADIUS toothbrush was born. The final design, launched in 1983, was about two thirds the thickness of an Oral B 40 and had four times more bristles. It came in right or left handed versions, and the body of the toothbrush was made of cellulose, as plant based plastic.

"No one else had ever done anything with a handle that was so solid, beautiful and thick," Saskia Foley, RADIUS executive vice president, told Organic Connections. "You didn't want it too heavy, you didn't want it to break, but you wanted some warmth to it. Cellulose was the chosen plastic because it's made from wood and it comes from sustainable-yield forests."

The company was not only using sustainable materials, it was having to evolve technologies in order to manufacture such radical toothbrush designs. One example is their toothbrush heads. "The bristles in the head are basically a complete redesign from everything that's ever existed in terms of toothbrushes," Foley explained. "The standard toothbrush has a head consisting of 55 tufts of bristles. The reason why those tufts exist in that number was largely determined by machine capabilities; machines can only go so fast. The solution for that was to make the holes in the head bigger in order to fit more bristles into each hole. Fewer holes to drill and less time to make the product meant it was cheaper. However, fewer holes with a lot more bristles in them ends up being considerably tougher on the mouth, because the bristles won't

bend as much, due to being bound so tightly together."

"Our replacement bristle heads have 77 tufts. The reason that we can get that many is because we radiate the bristles. There is less plastic and there are substantially more bristles covering the surface of the plastic, allowing for twice as many bristles in your mouth as with a standard toothbrush." That arrangement of bristles means that not only do tight spots get brushed but gums are massaged as well. Brushing longer is also a factor in good hygiene. RADIUS solves this problem with their Intelligent Toothbrush containing a two-minute timer, ensuring that the user brushes long enough.

Evolution in design and sustainable materials continue to be part and parcel of the RADIUS method of operation, and the company recently released a uniquely designed toothbrush-with a handle made from shredded dollar bills. "This past summer I was researching different materials and came across old currency," said Foley. "The United States Mint recalls old, worn out bills from banks, gives the banks credit for them and then they are shredded. Sometimes people buy the shredded bills for gags and use them in gift boxes, but they've never been used in any kind of industrial sense. It looks great - very 'bling-bling' - and it's reusing something that would be thrown away regardless, and it mixes with recycled plastic."

Handles are also being made with recycled flax husks that are a wasted by-product of the linen production process.

Along with toothbrushes, the company offers snazzy toothbrush, razor, soap and other travel cases as well as a selection of biodegradable silk and natural cranberry dental flosses.

RADIUS products are available at Whole Foods Market, the Vitamin Shoppe, Bed Bath & Beyond and many other stores nationwide. To find a store near you, or to purchase direct, visit the company's website at www.radius toothbrush.com.

SETTING THE EXAMPLE

The "traditional" manufacturing model of producing goods from non-sustainable raw materials that are then simply wasted cannot continue - at least not on this planet. Companies would do well to look to Preserve and RADIUS as examples of the only future that is truly open to us.

