

Sustainable By Design

by Ana Bitter

Every time my “disposable” pen runs out of ink I am struck with guilt at the thought of throwing the entire thing away. The pen-casing is not worn out; it is the simple fact that the ink is gone that renders the whole thing useless. The sound of the pen hitting the bottom of the trash can always sets off a nagging voice in my head that says something could have been changed to avoid this waste, that the pen could have been designed better. The reality is that it could have been, by individuals in the burgeoning field of environmentally responsible product design, also known as eco-design.

Inefficient and unsustainable product design is certainly not just a problem with pens. Nearly all product packaging is over-designed, using excessive material. For instance, the molded packaging surrounding small electronics, scissors and even dog toys is often difficult to open, resulting in a mangled piece of plastic that can in no way be reused and, consequently, ends up in the trash. There is also an inherent problem with the concept of “disposable” products. In addition to pens, manual toothbrushes are another example of items whose parts wear at different rates, but when one reaches its end, the entire product is worthless.

Parts of these products pose an especially serious threat to Hawaii’s unique marine environment. Just looking at what washes up on our beaches, or horrifying spectacles like the garbage patch floating off of South Point on the Big Island, it is easy to see where so much of our “disposable” items end up. This waste not only mars our lovely coasts but threatens the lives of fish, marine mammals and reptiles, and even seabirds.

Living in Hawaii, it is especially apparent to me that resources (including space for waste disposal) are finite. The time is fast approaching when there will be no place left to dispose of our newly-made-but-quickly-useless material. Already we are facing the challenges of crowded landfills. The Hilo landfill, for example, can no longer keep up with the town's waste production, making it necessary for garbage to be trucked over to West Hawaii's landfill. In the next 50 years, with current rates of waste generation and unchanged product design, it is extremely feasible that we will have filled that space as well. But what then? Would we simply continue to ship our garbage further and further away?

The recycling programs that are in place throughout the state alleviate a fraction of this problem. But instead of simply working on ways to eliminate our manufactured waste, what if we went back to the beginning and worked on reducing materials used at the start? This is exactly what the area of eco-design aims to do: decrease waste and increase the sustainability of products through the principles of design.

There are numerous current examples of material-reducing designs. For example, thinner plastic water bottles and plastic utensils with cut-outs in their handles. However, it is not just a matter of reducing material used in production, but also the choice of what material is used. Choosing more biodegradable substances can reduce lifespan of certain waste items. This concept can be seen in products such as cups, straws and utensils made from corn starch. Additionally, these materials can replace others, such as Styrofoam, that can persist in the environment for decades. Improvement can come too with the redesign of certain products to make parts of them more than just one-time-use. For instance,

“disposable” toothbrushes could have replaceable head and bristles, but reusable handles made of materials such as wood, that wear well and even improve with time.

Clarence T.C. Ching is remembered as an extraordinary businessman and community figure, primarily because of his ability to plan for the future. His foresight allowed him to transform parts of Honolulu, and the greater Oahu area, into what they are today. Similar to the ambitious leadership that Ching displayed when developing Kukui Gardens for the betterment of the low-income community, Hawaii too can lead the nation, and even the world, in sustainability through eco-design. At a time when sustainable products and technologies are needed more than ever, this initiative would be for the betterment of Hawaii as it is today, as well as far into the state’s future. Working on solutions to problems on the local level could easily result in products that would be applicable for global sustainability and efficiency.

I believe that design is a powerful tool that can not only add to the visual beauty of the world but fundamentally change the aspects of, and objects in, our daily lives. It also has the potential to be divisive in solving the problem of material waste build-up and in ensuring a more sustainable future. Even the ink cartridge used to print this essay could have been improved through changes using eco-design. I’m certain it can have that same positive impact on Hawaii’s future, as well.