C2C - Coffee Cup

RE-DESIGN: The Canadian Contribution

Curated by renowned Japanese graphic designer Kenya Hara, head of the Nippon Design Center in Tokyo, the exhibition 'Re-Design' was originally conceived as an experiment in material culture and design that would take a critical look at everyday objects used in Japan through the eyes of architects, artists, and designers.

The Design Exchange of Toronto commissioned new projects from five designers, making Canada the first to add to the exhibition. The designers were selected from across the country and from different design disciplines based on their expertise.

Unlike the Japanese work, the topics of the Canadian projects were not assigned to the designers; it was up to them to choose what they would deconstruct and redesign. While it was not necessary that the products be original Canadian designs, the designers needed to determine that the objects play an important role in our daily lives - whether we realize it or not.

Designers were asked to consider the issues Canadians are facing and how this is reflected in the thousands of products we come into contact with each day. They were to analyze what meaning their chosen objects have for Canadians, and possibly for the rest of the world. Designers should explore how and why each object has reached its current form. And then the challenge: to redesign the object in a way that would create more enjoyment and interaction with the user, while addressing issues of sustainable and universal design.

Coffee to Coffee Cup (C2C)

The paper cup was invented and introduced for water consumption around 1910. In 1915, the design was improved through the introduction of the raised bottom, and in 1919, through the rolled rim. Paper cups for hot drinks arrived around 1930, and the polystyrene (Styrofoam) cup was patented in 1954. The first drink-through lid was patented in 1918.

Canadians drink over 15 billion cups of coffee a year, making coffee Canada's favourite hot beverage. In fact, coffee represents 18% of all beverages consumed in Canada, second only to tap water. 12% of all coffee is consumed in a restaurant or take out setting.

Female user

Design Team

With a life-long commitment to design and environment that goes beyond buildings, architect Peter Busby & architect/designer Sören Schou of Busby Perkins+Will and designer Saleem Khattak have tackled products that enhance the quality of life at every scale.

The three designers share the same design philosophy - design excellence and low environmental impact. These guidelines stress the use of energy efficient manufacturing processes, and of recycled and recyclable materials and products, as well as acquiring these materials within a close proximity to the building site.

This rationale inspired redesigning the disposable coffee cup. Together they developed the idea of re-using coffee grounds - instead of discarding them - on the premises.

Male user

Solution

In a perfect world, we would not generate waste (i.e. landfill) or burn fuel unnecessarily (i.e. shipping), but utilize waste products locally in the perpetual circle of cradle-to-cradle consumption.

As an example, the design team chose the disposable paper cup; the 'C2C' coffee cup is manufactured at the cafe from the waste stream of the cafe.

Used coffee grounds are mixed with paper pulp and a polylactide resin (made from corn derived dextrose), then pressure-molded into shape. C2C is dried and cooled whilst being transported to the place of usage or storage.

The physical design itself originated from the wish of providing not only a directional feature to the cup, but also to provide a friendlier shape and more secure grip for weaker hands. When using a lid - through thoughtful placement - the user will always know where the drinking opening is.

C2C is fully biodegradable with its final elements being 100% compostable.

Manufacturing of C2C provides for an animated feature in the cafe, since most of the process will be visible.

The C2C-Maker would be an under-counter or behind-counter installation, with parts of the machinery being visible and/or exposed; typically, the mold/forming/cooling "tree" would be above counter level.

It would be perfect, if the grounds used for "your" drink would make up "your" cup. However, "your" cup grounds content will actually be from someone else's brew, since there will be a certain cycle delay, when taking mixing, forming, drying, and cooling into consideration. But technically, one brew makes its own cup.

If every cafe has a C2C-Maker, we estimate that the grounds content of C2C will be around 15%, with the remaining 85% being pulp filler and polylactide resin. If the machinery is only installed in high-profile cafes, coffee grounds from other locations may be brought in and utilized, allowing for an estimated 90-95% of the C2C to be coffee grounds; the polylactide resin will then only be required as a binder and sealer.

The concept may very well be regarded as a marketing ploy for a company with an environmental agenda. As such, this company will be able to afford paying for machinery and manufacturing, - even if the C2C ends up being more expensive than existing paper cups on a per cup basis.