

Opinion | OP-ED CONTRIBUTOR

Designing for Access

By ALLISON ARIEFF DEC. 14, 2017

Many recent technological advancements seem more ominous than optimistic: Alexa eavesdropping on water cooler conversations at work, automation taking our jobs, autonomous vehicles crashing into taco trucks. Or they're more frivolous than helpful (for example, automated dental floss dispensers). But "Access+Ability," an exhibition opening Friday at the Cooper Hewitt design museum in Manhattan, fills one with real optimism: It highlights the beneficial ways design and technology are transforming the lives of people with different physical, cognitive and sensory abilities.

The show also reveals the challenge of bringing empathy to the marketplace: Most of the more than 70 products on display were initiated by someone who either has a disability or has a family member who does. Frustrated by the lack of solutions created by others, these people were motivated by their own experience and need.

"Many of these are consciousness-raising products," the exhibition's co-curator, Cara McCarty, said. "They put the magnifying glass up to something others might experience every day. We take moving around for granted, but if you find yourself on crutches one day, or you have a baby and then have to navigate getting into the subway with a stroller, you become aware."

Maayan Ziv, a woman with muscular dystrophy, created a crowdsourcing app called AccessNow, which allows people to pin and rate places according to their accessibility (or lack thereof). BlindWays, an app designed by the Perkins School for the Blind, addresses the challenge of how to find a bus stop when you can't see

it. Amanda Savitzky created a cooking prep system to help her adult autistic brother make his own meals.

Collaboration among, say, the user, designer and researcher has resulted in more personalized products. Where a generation ago wheelchair options were limited to small, medium and large, now there's Morph Wheels, with folding and collapsible wheels designed for portability, and the Motivation Rough Terrain Wheelchair, which navigates rough, unpaved or uneven terrain. Paralympic athletes joined forces with BMW Designworks to create a lighter, more aerodynamic racing wheelchair.

Back in 1988, Ms. McCarty organized the exhibition “Designs for Independent Living” at the Museum of Modern Art. At that time, as the exhibition news release pointed out, adaptive equipment was developed by occupational therapists and medical technicians: “While useful, most of these objects were extremely cumbersome in design, helping to foster the user's feelings of inadequacy and further contributing to society's stigmatization of the disabled.”

In the years since, Ms. McCarty has been heartened to see a lot more people — and many more disciplines — interested in working on these products. Students just entering the design profession seem particularly keen to tackle these challenges, and much of the show features prototypes they've developed in school: The \$40 prosthetic, part of the multidisciplinary Simple Limb Initiative at San Jose State University, is an aspect of a project that focuses on designing affordable prostheses, specifically for children and teenagers who outgrow customized devices. Hands of X, an initiative of the University of Dundee and the Institute of Making, at University College London designs made-to-order prosthetics that come in a range of materials (leathers, wood, felt, metal) and colors. They're co-created by wearers and makers, and cite the likes of Muji and Camper shoes as design influences.

The Pratt Institute, the Cooper Hewitt and the New York Alzheimer's organization CaringKind brought social workers and design students together to develop products that address common challenges for people with Alzheimer's and other forms of dementia, like a fear of bathing or trepidation about moving to a new residence.

I love this observation from Alex Schweder, who teaches the Design for the Mind class at Pratt and is also caring for a mother with the disease: “Designing for someone with Alzheimer’s is not so much about inventing new technologies or forms but using existing ones toward different ends. In fact, students taking this class began to see human emotion, perception and language as technologies.”

There’s another major shift in approach in “Access+Ability”: In earlier generations, hiding disability was always a high priority. Today, there’s a lot more emphasis on fashion, glamour, choice. For so long, many of these products looked clunky and clinical. Even compression socks, once beige or black, are today made by the designer Matthew Kroecker in a bold graphic print. “An older person may be happy with their hearing aid as it is,” Ms. McCarty said, but “young people may not be so concerned about concealing it. They want something that looks nice,” possibly one that they can decorate.

So the hearing aids on view here, like the one designed by Elana Langer, are “bedazzled and bejeweled” with Swarovski crystals or metal, or metal minimalist, like the Zon designed by Stuart Karten Design. The Sabi Roam cane may not reinvent the form, but it certainly upgrades it; it comes in several colors and uses the same Baltic birch wood used in skateboards.

This shift toward outward expression helps explain why the Superflex Aura Powered Suit, an undergarment designed to assist people with mobility, looks more like something you’d see on the runway or worn by one of the robo-women in “Ex Machina.” It’s still a prototype but the current aesthetic of this Yves Behar-designed exoskeleton may be too intimidating for much of its intended audience to consider. In contrast, there’s the Afari Mobility Aid which, when in use, just looks as if you’re walking your bike instead of riding it.

Some of the prototypes in the show are absolutely miraculous, like the DynavoxEyeMobile Plus, which makes gaze-enabled and hands-free computer access possible for people with physical challenges like spinal cord injuries or A.L.S. BrainPort, a sort of surrogate eye, translates the shapes of the physical world into vibrations that the wearer can feel through a device placed on the tongue. With practice, a visually impaired person can learn to interpret the vibrating patterns and begin to “see.” The Emma watch uses haptic vibration technology to allow

people like Emma Lawton, a graphic designer given a diagnosis of Parkinson's in 2013, to regain the use of her hand.

It's so encouraging that more people are interested in pursuing this area of design. The big discussion should be how to get more manufacturers, developers and companies to hire them to do it. It's time for the market to catch up to the need.

Allison Arieff is a writer on architecture and design and a contributing opinion writer.

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