Artist stands tall in Adams

By John Seven, North Adams Transcript
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ADAMS -- Randy Newman once declared that "short people got no reason to live," but thanks to artist Adi Marom, the vertically-challenged can be talked down from the ledge.

Marom has invented a pair of elevator shoes that work like an actual elevator -- one that is remote-controlled by an iPhone. Her project "Short ++" is part of the "Greylock's Anatomy" show opening at Greylock Arts, 93 Summer St., tonight at 5:30.

Marom -- who measures in at 5 feet, 1 inch tall, can reach up to 5 feet 8 inches with her special shoes on. She is an Israeli-born designer who has been featured on the Discovery Channel and in Scientific American.

Her inspiration for the mechanical footwear came from her personal experience as the shortest kid in the class, which made her feel younger than everyone else. She was further nudged by thoughts of high heels and platform shoes and their inherent silliness, as well as their debt to a form of evolutionary survival that has passed humans by.

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Adi Marom models her elevator shoes, which will be shown tonight... (Photos courtesy of Adi Marom)

"I was seeing how different organisms have these different unique mechanisms that allow them to change their size on demand, like pufferfish that can grow to look more impressive and scary," Marom said during an interview this week. "With that in mind, I was thinking, what if human beings also had this ability to change their size on demand whenever they want to be stronger or taller."

This idea of human evolution on demand seemed right when Marom considered the future of technological body modification as a part of it. If true cyborgs are what lie ahead -- and some form of them likely does -- then she could get in on the forward movement early by strapping her mechanized shoes to her feet and making them a part of her.

At the center of her concern was how such real-time modifications would intrude on personal interaction. She had noted that height seems to make a difference in many areas of life, most notably in politics, where it can signal power and advantage.

"There are a lot of leaders in the world that are short, and we're always looking for different solutions," Marom said. "The French King Louis XIV was wearing red high heels, and he didn't allow anyone else to wear high heels because he wanted to protect his height advantage."

Even in the 21st century, height can be an issue on the world stage.

"When French President Nicolas Sarkozy gives speeches, he's standing on a little footstool behind the podium," Marom noted. "I guess it's something that short people are still struggling with -- there's still something out there. I saw that with Sarkozy. They were hiring short models to take photos with him. There are different things in history that you can relate to it, and it's really funny that height would be disturbing to people."

Marom saw her shoes as a way of humorously addressing not just height, but also other physical inequalities to which human beings attach importance in their interactions

"It's a way to create a dialogue about how height is still an issue in interaction, or how different other physical features, not just necessarily height, could have an impact on interactions between people," she said. "But, of course, the fact that it's dynamic and not just someone standing on some platform makes it a different situation."

The shoes were designed for her thesis at the Interactive Telecommunications Program, a division of New York University that has been at the forefront of inventive interactive technology.

Even though the mechanism looks simple -- a folding platform that elevates itself -- the physics of it presented a challenge for Marom. She needed something that was compact and wasn't so heavy that it could be comfortably worn as shoes, within reason, but was still strong enough to hold about 100 pounds of human and then lift it half-a-foot smoothly.

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"I did a lot of folding mechanisms before, but this was a big challenge," Marom said. "Lifting a person's weight, even if you're short, is big and needs a really efficient mechanism and a lot of torque to push the weight up. It wasn't obvious."

She did an initial model in wood, and once she settled on an effective mechanism, began fabricating it in metal. Much to her surprise, it worked perfectly on the very first test.

The only obvious indication that she is wearing machines on her feet is the noise the shoes make.

"It is noisy, but I love the sound," she said. "For people who listen to it, it's like this cyber experience where you're really integrating between body and machine."

The current model is made out of aluminum and requires a battery pack to be attached to Marom's back, but she's considered a newer version with more expensive and lighter materials.

"I don't think this prototype is really practical," she said, "but I do get interesting comments and e-mails about this project, so it seems like something for the future when cyborgs will be all around us, and it will be a little more of an efficient mechanism, I think it is something that will be possible, but not at the moment. It's not comfortable enough to carry around and walk with."

Prior to her stint at the Interactive Telecommunications Program, Marom lived in Japan, where she designed foldable furniture, a job that has fueled her aesthetic and conceptual interests over the years.

"The idea was how users can fold and change the artifacts, the furniture, according to their changing needs," she said. "When I went to ITP, I really wanted to learn new technologies, like sensors and actuators, and integrate them into my work in order to make my work more responsive -- so it doesn't require the user to change things, but the things respond to them."

Her work hints at a preoccupation with manipulating the body with technology into more mechanical forms. Her 2008 project "Fold U.S. Candidate" involved creating finger-puppet designs of Barack and Michelle Obama, John and Cindy McCain, Joe Biden and Sarah Palin that people could download, print, fold and build -- and, at Marom's encouragement, stage humorous debates featuring the puppets to post on YouTube. So simple a project meant the intricate work of adapting the human form to a kind of origami that would fit fingers.

Similarly, her sculptures "Huff and Puff" and "Parasite" attempt to duplicate what nature so seamlessly accomplishes. "Huff and Puff" utilizes pumps, pistons and motors to create a couple of man-made puffer fish. "Parasite" is a mechanical creature that responded to its own environment by expanding and contracting in the presence of viewers via a servo motor.

Marom admits to being fixated by the field of biomimicry -- the study of natural systems and processes in order to apply them to human problems -- and this was the focus of her thesis while studying in Japan.

"I'm fascinated by nature's motions, so I guess I'm fascinated by nature's different solutions to interaction and the kinetic mechanisms," she said. "I try to translate them into interactive artifacts, responsive environment and responsive artifact."

Marom's tools in this investigation are technology of varying ages -- everything from origami to mechanical design to networking and circuits and digital imaging.

"The integration of high tech and low tech and the mixing of different mediums is something I'm very fascinated by and I think that comes up in all my work," she said, "so 'Fold U.S. Candidate" was very traditional folding techniques, but also animation and YouTube and allowing users to upload their own campaign. I like to create new platforms and new opportunities to interact by combining different technologies."

By mixing up the mechanical and the biological with some form of digital, Marom's work invites participation from the viewer -- that may, in fact, be half the work, and certainly constitutes the final portion of the integration between the technological and the organic.

In some of her other work, the mechanical is utilized to translate the digital into our material world, as in "Machinema," which offered a large-scale digital animation of a mechanism that visitors could control with an actual mechanical crank. With "Living Shade," Marom created an automated window shade system that made real life look digital by creating moving shadows that look like pixels. Two worlds -- the digital and the real -- collide.

"It's interesting to see how people have this feeling that it's a living thing, even though it's just a mechanism with sensors," she said. "But their responses are as if it's a living thing because it's imitating natural behavior."

These ideas reach a nexus in Marom's shoes, which don't exist as machinery for people to stare at, but combine with her as part of a package that people encounter. When approaching someone, she and the shoes become one, the result of a triangular relationship between the scissors jack mechanism, her iPhone and her body -- and that actualization of the future may affect conversation as much as the adjustment of height.

"They're like an extension to my body," Marom said. "The fact that it's real time change and not just a woman standing with a platform next to you -- the dynamic change creates different interaction, that's for sure. It's a way to create a dialogue about how height is still an issue in interaction or how different other physical features, not just necessarily height, could have an impact on interactions between people. But of course the fact that it's dynamic and not just standing on some platform makes it a different situation."

Adi Marom can be found online at adimarom.com.