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Robot fast-food chefs: Hype or a sign of industry change?



A worker lift a lunch bowl off the production line at Spycce, a restaurant which uses a robotic cooking process. — AFP photos



Charles Renwick lead software engineer at Spycce Food Company, right, assists a customer with an order at the Spycce restaurant, which uses a robotic cooking process.

Robots can't yet bake a soufflé or fold a burrito, but they can cook up vegetables and grains and spout them into a bowl - and are doing just that at a new fast casual restaurant in Boston. Seven autonomously swirling cooking pots - what the restaurant calls a "never-before-seen robotic kitchen" - hum behind the counter at Spycce, which opened Thursday in the city's downtown. Push a touch-screen menu to purchase a \$7.50 meal called "Hearth." A blend of Brussels sprouts, quinoa, kale and sweet potatoes tumbles from hoppers and into one of the pots. The pot heats the food using magnetic induction, then tips to dunk the cooked meal into a bowl. Water jets up to rinse it off before a new order begins. Is this a robot chef or just another high-tech novelty machine? Experts differ, but more such automation is likely headed for the fast-food sector in coming years. A report last year by the McKinsey Global Institute said that food preparation jobs are highly vulnerable to automation because workers spend so much time on predictable physical tasks.

Currently, there's one big thing holding back the chefbots: "The human labor also tends to be lower-paid," said McKinsey partner Michael Chui, making it less economical to automate those jobs. But that could change as businesses develop cheaper and more efficient robot chefs. Spycce has those, and automated order-taking kiosks to boot, although it still employs plenty of humans. Founded by four former MIT classmates who partnered with Michelin-starred chef Daniel Boulud, the restaurant has hired people to do the trickier prep work - parboiling rice, rinsing and chopping vegetables, cutting meat and reducing sauces in an off-site commissary kitchen. It also employs a handful of people for customer service and to garnish the

robot-cooked blends with fresh toppings. But the mesmerizing machinery, equipped with dozens of motors, sensors and moving parts, is the real draw.

Our robot doesn't get sick

"The openness of the design was something we knew we wanted from the beginning," said Brady Knight, a co-founder and engineer. "It is kind of a show. It's fun to see what's going on behind the scenes. We didn't want to hide anything because we think what we made is pretty cool." Automation in the food industry isn't

“ It can't make decisions

exactly new, though it's often unseen by customers. Think of the chocolate factory conveyor belt that led to comedic mishaps in a famous "I Love Lucy" episode in the 1950s, or machines that wash dishes and brew coffee. There was also the early 20th century fad of waiterless "automat" cafeterias that served hot food when customers fed a coin to open a glass door.

But while food processing machines are prized for their speed and hygiene - "our robot doesn't get sick," Knight said - they have a harder time handling the complexities of fresh food. In Mountain View, California, the founders

of Zume Pizza spent years tinkering with a robotic kitchen that can form pizza dough, apply tomato sauce and transfer the pizza in and out of the oven. Other jobs that require more dexterity and judgment - such as layering on toppings - are left to humans, and the robot only performs tasks it can do dramatically better, CEO Alex Garden said.

Garden said his philosophy is that "automation exists to improve the quality of human life," so he invests savings from the increased productivity in higher wages for employees and higher-quality ingredients for customers. Spycce's founders said they chose a relatively simple type of meal - grain bowls - and avoided trying to use robotic arms. With each "degree of freedom," a robotics term for movement on a joint or axis, more things can go wrong with the machines, they said. "Butchering is pretty hard to do," said Chui, the McKinsey partner. "On the other hand, machines do a pretty good job of taking the kernels out of corn and a lot of sorting tasks."

There's no feedback loop

Restaurants marketing themselves as powered by robots or automation have grabbed attention from gawking first-time customers in recent years, but haven't usually lived up to the hype. In 2007, a sit-down restaurant in Nuremberg, Germany, began delivering food by gliding it down curvy rails and onto a big turntable. The restaurant's owner, Michael Mack, told The Associated Press at the time that he was trying to eliminate "uncomfortable" fast-food experiences such as long lines, carrying meals to the table and cleaning up. The restaurant has since closed. Its online reviews complain of high prices and traffic jams involving backed-up serving pots. Also stalled is a



Customer wait as their automatically prepared food is dropped from a cooking pot into a bowl at Spycce, a restaurant which uses a robotic cooking process.

burger-flipping robot named Flippy that was put on leave from a Southern California restaurant just days after its March debut.

Its maker, Miso Robotics, said Thursday that the robot should be back in service later this month after some tweaks to speed up its performance. Spycce has generated enthusiasm among downtown Boston office workers, though technology experts in a city known for spawning robotics startups aren't sure what to call it. "I really wouldn't consider that a robot," said Tom Ryden, director of Boston-based startup incubator MassRobotics, who reserves that definition for a device with the ability to react to its environment.

"It can't make decisions," Ryden said of Spycce's auto-pot. "It can't say something's cooked too long. There's no feedback loop. It's

just an automated system." But Ryden said he's still eager to join the lunchtime crowds in trying it out. — AP



A customer carries away a prepared lunch bowl at Spycce.

Swimming-pool landscaping: Pretty with a minimum of debris



A contrasting mix of long-flowering plants separated from the pool water by a walkway in Dayton, Ohio. — AP photos

Landscaping around an outdoor swimming pool requires no-muss, no-fuss plant selections. The pool can be a flowery focal point, but don't open it to litter from leaves and limbs. "Both in- and above-ground pools offer unique design challenges and opportunities," said Tim Moloney, an instructor in landscape design at the University of Missouri. "In-ground pools offer the ability to provide screening with lower height plants" but may have more issues with litter falling into the pool.

"Above-ground pools are somewhat sheltered from ground debris, but are more of a challenge for visually softening the walls of the pool and (adding) privacy from outside viewers," Moloney said. Start by considering plant needs - sun or shade. Then decide what you want your poolside landscaping to achieve. "Privacy screening versus sun exposure is typically the strongest pool-owner concern," Moloney said. "This is followed closely by litter and tracking of grass clippings and mulch materials. "After function is addressed, we focus on form," he said. "Making the space as enjoyable as possible." Brightly colored flowers attract pollinators, and that could mean bee stings. Some of the most attractive ornamental plants have thorns. Both are obviously annoying to thinly clad and barefoot bathers.

"Typically, I have found that insects will generally ignore us if we ignore them," Moloney said. "Just the mere presence of bees in the landscape does not initiate attack. However, if severe allergies or phobias of bees exist, I recommend concentrating on other ways to brighten up the landscape - brightly colored foliage, for example." Or turn to marigolds, chrysanthemums, mint, foxglove,

geraniums and zinnias whose blooms don't typically attract stinging insects.

And thorns?

"Cacti are very climate specific, but can offer huge aesthetic benefits for arid environments," Moloney said. "Roses offer us what few other plants can - an entire summer of repeat blooms. In my opinion, the benefits of these plants outweigh the hazards as long as the plants are positioned an appropriate distance from well-trafficked areas." Some other poolside gardening do's and don'ts:

- Watch where you stockpile organic materials such as pine straw or bark. "They can blow or be tracked into the pool by wet feet on pool decking," Moloney said.
- Select plants for year-round interest, even in cold weather when the pool is closed. Think evergreens.
- Choose trees and shrubs that produce a minimum of litter. "Almost any organic material that falls from trees - needles, leaves, spent blooms, fruit - has the potential to stain hardscape elements like pool decks and patios," Moloney said. "I simply try to balance the benefits with the concerns, and reach a compromise we can all live with."
- Think about both day and night use. "Evenings can be accented by soft peripheral lighting or featuring tree trunks with up-lights," said Robert Brzuszek, a landscape architecture professor with the Mississippi State University Extension Service.
- Eliminate the use of dark-colored pavement around the pool; it adds reflected heat to plants, especially in hotter, dryer climates. "Plants that have smaller or waxy leaves will also lose less water than large thin leaves which dry out quickly," he said. — AP

Freak out: Telling a fashion life, Gaultier taps Nile Rodgers

Deciding how to tell his story as one of fashion's edgiest designers, Jean Paul Gaultier knew there had to be music. And he knew it had to come from Nile Rodgers. The designer who has brought playful and provocative clothes to the world's runways for four decades is turning the focus to himself with an autobiographical show to open on October 2 in Paris. More than a catwalk and not quite a musical, the genre-blurring "Fashion Freak Show" will bring out Gaultier's iconic designs as well as new outfits and tell his life through actors, models and a live singer.

Spearheading the music will be the creator of "Le Freak" himself-Nile Rodgers, the force behind disco titans Chic and the behind-the-scenes producer for a who's who of stars from Madonna to Diana Ross to Daft Punk. "Truly, honestly, if there was one person I would think about for the music, it was him," Gaultier told AFP at Rodgers's seafloor home in Connecticut, the walls covered with guitars and framed records of the producer's hits by artists including David Bowie and The B-52s. "He is part of my life," Gaultier said. "Everybody loves his songs, has danced to them, has been in love with someone because of his music."

Rodgers-who affectionately calls the 66-year-old Gaultier, five months his senior, "JP"-said that the show would feature both new music and classic songs. But Rodgers said he plans to rework some of the better-known tracks to serve as underscores during the show, which will take place at the celebrated Folies Bergere cabaret hall. "When you're dealing with a theatrical piece, you are absolutely dealing with an emotional arc," Rodgers said. "And that emotional arc may not be served properly with the original music. It has to change a bit."

Fashion to advance music

Gaultier has been deeply involved in the music world. In 1989, he recorded a now-obscure dance track, "How to Do That," his vocals delivered in his rapid-fire, irrepressibly enthusiastic yet heavily accented English. But his biggest influence in music came through his work with Madonna. He designed some of the more headline-grabbing items from her "Blond Ambition" tour in 1990 including her bullet-like cone bra and the golden corset she sported when she sang "Like a Virgin," a track produced by Rodgers. Gaultier, who has also designed clothes for Beyonce, Kylie Minogue, Lady Gaga and Rihanna as well as plenty of Hollywood royalty, rocked the fashion world by mixing up traditional gender roles and has been wildly experimental when imagining costumes for films such as Luc Besson's science-fiction "The Fifth Element."



Fashion Designer Jean Paul Gaultier and Record Producer Nile Rodgers pose for a picture in Westport, Connecticut. — AFP photos

But the French designer, who was inspired as a child by playing in his grandmother's closet, said he saw more creativity in music. "I don't think of fashion as art," Gaultier said. "Fashion is supposed to be superficial. It's true that by fashion you can express yourself a little and tell things, but it's not like music that goes through your nose, your ears, everywhere," he said. "Music is something very beautiful and that we truly need, like eating."

Creating an 'emotion'

Rodgers, sporting a white sports coat made

of a collage of newspaper prints, said he did consider fashion to be art-but saw the overwhelming power of music. "It's the only art that chases you down the street," Rodgers said. The "Fashion Freak Show" is scheduled to run through April. Rodgers said he imagined shaking it up frequently, including making adjustments during intermission, and could envision creating a television version. "What we're trying to create is not only an experience that happens with you, but I think an emotion that you internalize and that you take back home with you," Rodgers said. — AP



Fashion Designer Jean Paul Gaultier and Record Producer Nile Rodgers pose for a picture.