

IN DEATH, A CROW'S BIG BRAIN FIRES UP MEMORY, LEARNING

SEATTLE: For nearly every step of his almost 12-mile walk, Darryl Dyer has company. Flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. "They know your body type. The way you walk," Dyer said. "They'll take their young down and say: 'You want to get to know this guy. He's got the food.'"

Scientists for years have known that crows have great memories, that they can recognize a human face and behavior, and can pass that information onto

their offspring. Nowadays, researchers are trying to understand more about the crow's brain and behavior, specifically what it does when the birds see one of their own die. They react loudly to the dead, but the reasons aren't entirely known.

Among the guesses is that they are mourning; given that crows mate for life, losing a partner could be a significant moment for the social animals. There are anecdotes of crows placing sticks and other objects on dead birds - a funeral of sorts.

Complex social relationships
Using masks that look creepy human, researchers showed up at Seattle parks carrying a stuffed crow. They recorded the reactions. It takes one crow to signal an alarm, and then dozens show up. They all surround the dead crow, looking at it as they perch on trees or fly above it, a behavior called mobbing.

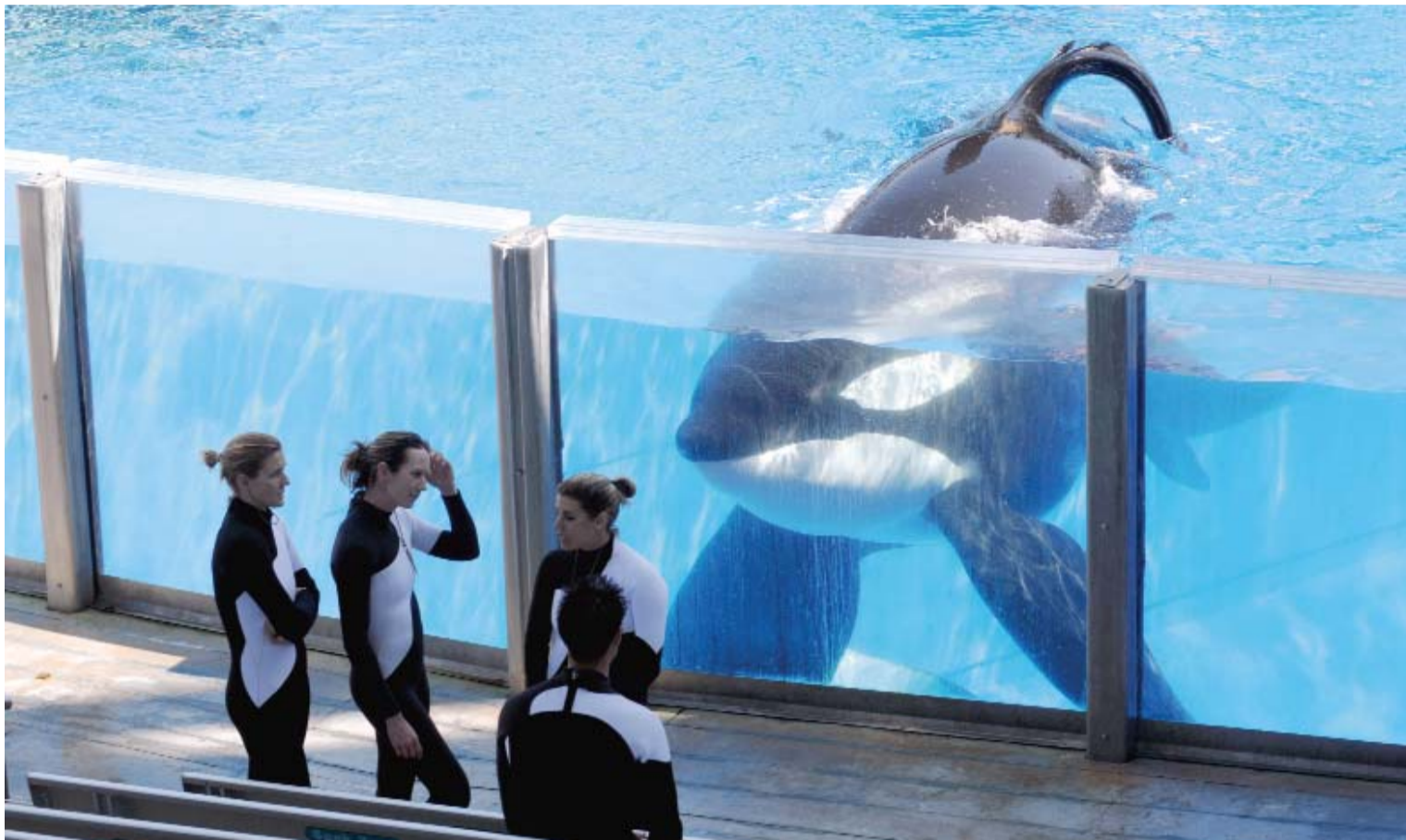
"Crows have evolved to have these complex social relationships, and they have a big brain," said Kaeli Swift, a University of Washington graduate student who led the study. How big of a

brain? Crows are on par with smart mammals, like dolphins and primates, in brain-to-body proportion. They have been known to be problem solvers and are among the few animals recorded to use tools.

In another part of the experiment, using slightly radioactive tracers, researchers measured the brain activity of crows after they were shown a dead bird. The scans showed the section of the hippocampus - the part involved in memory formation - light up at the sight of death. "In that particular situation at

least, that crow was learning about a place, or a face, or a situation and associated it with that dead crow," said John Marzluff, the lead researcher.

To Marzluff, this and upcoming research on crows highlight a special relationship humans have with a bird that has thrived in its cities and civilization. "When you see its brain is using the same parts of the brain to remember things that we do, or to learn fearful situations like we do, maybe it gives you a little more sympathy to the bird, or maybe kinship with the bird," he said. — AP



ORLANDO: In this Monday, March 7, 2011, file photo, killer whale Tilikum, right, watches as SeaWorld Orlando trainers take a break during a training session at the theme park's Shamu Stadium. — AP

SEAWORLD STOPS ORCA BREEDING, MAKING THEM PERFORM TRICKS

ORLANDO: After years of pressure, SeaWorld made a surprise announcement on Thursday: It no longer breeds killer whales in captivity and will soon stop making them leap from their pools or splash audiences on command.

Surrendering finally to a profound shift in how people feel about using animals for entertainment, the SeaWorld theme parks have joined a growing list of industries dropping live animal tricks. Ringling Bros. and Barnum & Bailey Circus is retiring all of its touring elephants in May. Once-popular animal shows in Las Vegas have virtually disappeared.

"Society's attitude toward these very, very large, majestic animals under human care has shifted for a variety of reasons, whether it's a film, legislation, people's comments on the Internet," said SeaWorld Entertainment CEO Joel Manby. "It wasn't worth fighting that. We needed to move where society was moving." SeaWorld's 29 killer whales will remain in captivity, but in "new, inspiring natural orca encounters," according to the company. SeaWorld's orcas range in age from 1 to 51 years old, so some could remain on display for decades.

Attendance at SeaWorld's parks declined after the 2013 release of "Blackfish," a highly critical documentary. Some top musical acts dropped out of SeaWorld-sponsored concerts at the urging of animal rights activists, who kept up a visible presence demonstrating outside the parks' gates. Still, the decision shocked advocates who have spent

decades campaigning against keeping marine mammals captive, and it represents a sharp U-turn from SeaWorld's previous reaction to the documentary.

In August 2014, SeaWorld announced major new investments in the orca program, including new, larger tanks, first in San Diego and then at its parks in Orlando and San Antonio, Texas. But the California Coastal Commission didn't approve the \$100 million expansion until last October, and when it did, it banned orca breeding as part of the decision. SeaWorld sued, arguing that the commission overstepped its authority, but said it would end its San Diego orca shows by 2017.

'Blackfish'

Meanwhile, SeaWorld brought in a new leader with more experience in regional theme parks than zoos and aquariums, which have been fending off such protests for decades. Manby was hired as SeaWorld CEO last March 19 after running Dollywood and other musically-themed parks. He said Thursday that he brought a "fresh perspective" to the killer whale quandary, and soon realized that "society is shifting here."

Orcas have been a centerpiece of the SeaWorld parks since shows at the Shamu stadium in San Diego became the main draw in the 1970s. But criticism has steadily increased in the decades since and then became sharper after an orca named Tilikum battered and drowned trainer Dawn

Brancheau after a "Dine with Shamu" show in Orlando in 2010.

Her death was highlighted in "Blackfish," and it wasn't the first for Tilikum. The whale also killed an animal trainer and a trespasser in the 1990s. "Blackfish" director Gabriela Cowperthwaite said she applauds SeaWorld's decision, "but mostly I applaud the public for recalibrating how they feel ethically about orcas in captivity."

The new orca shows will begin next year at the San Diego park, before expanding to its San Antonio park and then to Orlando in 2019, Manby said. What about shows involving dolphins and other marine mammals? "Stay tuned on that," Manby said. "A lot of people don't understand how hard it is internally to make these kinds of decisions. We need to execute this well. We need to make sure we have the organization in the same direction. Then we will apply those learnings elsewhere."

SeaWorld has not only discontinued breeding orcas through artificial insemination; it also feeds the whales birth control medication, Manby said. One of SeaWorld's most prolific breeders has been Tilikum. The 35-year-old whale has sired 14 calves during his 23 years in Orlando, but he's gravely ill now and not expected to live much longer.

"So you're saying you're ending your breeding program? Well, guess what? Your breeding program is ending anyhow. I think it's green washing," said Ric O'Barry, who directs the DolphinProject.net advocacy group. — AP

GRANDPA JOINS SPACE STATION

BAIKONUR: Three new crew members have joined the International Space Station, including a US grandfather who is poised to enter the record books during his time there, NASA said.

The Russian spacecraft carrying the astronauts docked at 0309 GMT yesterday some 407 kilometers above the Pacific Ocean, off the western coast of Peru, according to the American space agency.

Just over two hours later, crewmates Oleg Skripochka and Alexey Ovchinin of Russia, plus Jeff Williams, a US grandfather of three who is a veteran of long-duration space missions, floated into the orbital outpost after hatches were opened to allow their entry. "Welcome to @Space_Station! Hatches are opened and the crew onboard grows from 3 to 6 members," NASA tweeted.

According to NASA, the trio orbited the earth four times in their approximately six-hour journey to the ISS. "Can't believe we just left the planet and we're here already," said Williams, in a call to friends and family gathered back on Earth, which was broadcast online by NASA TV.

By the end of his half-year trip aboard the ISS, Williams "will become the American with the most cumulative days in space — 534," NASA said. Williams is also now the first American to be a three-time, long-term ISS resident, the US agency said. The rocket took off in windy conditions from Russia's space base in Kazakhstan at 2126 GMT Friday. The craft is decorated with a portrait of the first man in space, Soviet hero Yuri Gagarin, whose pioneering orbital flight was made nearly 55 years ago, on April 12 1961.

Williams to break Kelly record

The previous US record for most cumulative days in space was set by astronaut Scott Kelly earlier this year. Kelly, 52, spent nearly a year in space and returned to Earth

earlier this month with a total of 520 days in space, as part of an experiment to test the effects of long-duration spaceflight on the body and mind ahead of a potential future mission to Mars.

The all-time record for cumulative days spent in space is held by Russian cosmonaut Gennady Padalka, who racked up 879 days over his career and wrapped up his final mission in September 2015. Before arriving at the space station, Williams had notched up over 362 days in space, including three spacewalks.

His previous missions were flown aboard the space shuttle Atlantis in 2000, as well as a trip in 2006 when the station was far smaller with only two modules and three crew members. In 2009 and 2010, Williams served as a flight engineer for three months and later commanded the ISS for the remainder of his half-year mission.

Williams, Skripochka and Ovchinin joined US astronaut Tim Kopra, Russian cosmonaut Yuri Malenchenko and the European Space Agency's British astronaut Tim Peake at the ISS to continue Expedition 47. Over five months the crew will conduct more than 250 science investigations in fields ranging from biology to technology development, NASA said.

Among these will be a test of the effects of a large fire in space, carried out by setting off a blaze inside an orbiting unmanned space craft. The astronauts will also study how soil behaves in microgravity and test a gripping device for use in harsh space conditions that was inspired by geckos. The ISS has been orbiting the Earth at roughly 28,000 kilometers per hour since 1998 and has been continuously occupied since the first expedition in November 2000. Space is one of few areas of cooperation between Moscow and the West that has not been disrupted by tensions connected to violence and separatism in Ukraine. — AFP



BAIKONUR: In this photo taken with long time exposure the Soyuz-FG rocket booster with Soyuz TMA-20M capsule carrying a new crew to the International Space Station, ISS, blasts off. — AP

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