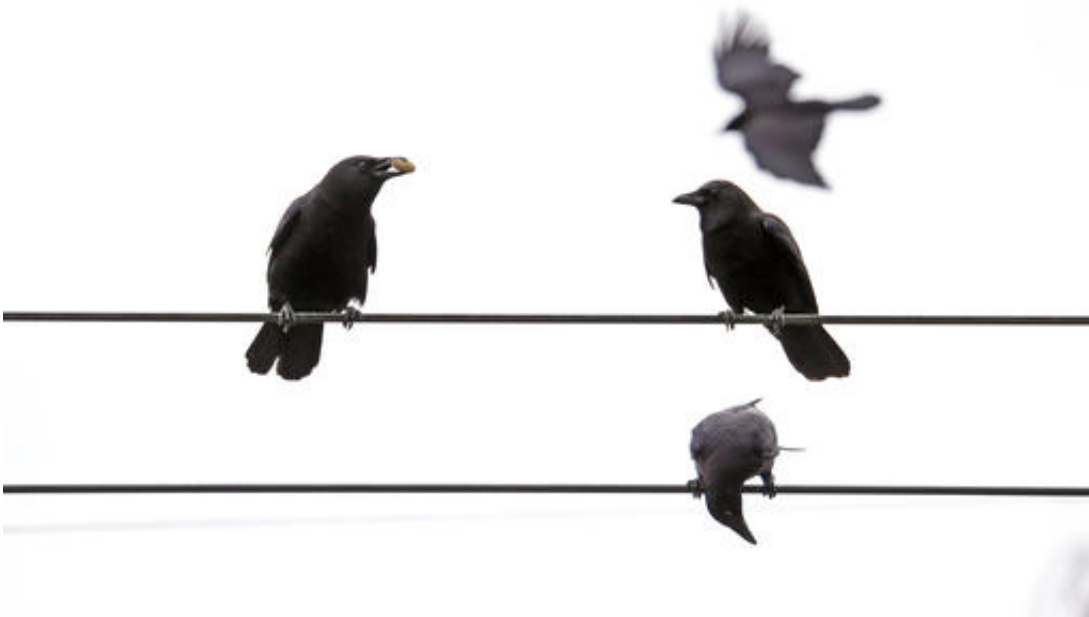


# In death, a crow's big brain fires up memory, learning

March 17 2016, by Manuel Valdes

---



In this Thursday, March 10, 2016 photo, crows line overhead wires after following Darryl Dyer on his usual route in Seattle. For nearly every step of his almost 12-mile hike, Dyer says flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. Scientists for years have known that crows have great memories, that they can recognize a human face, their behavior and can pass that information onto their offspring. (AP Photo/Elaine Thompson)

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.

Using masks that look creepily 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.



In this Thursday, March 10, 2016 photo, a crow takes flight after grabbing a peanut tossed by Darryl Dyer on his usual route in Seattle. For nearly every step of his almost 12-mile hike, Dyer says flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. Scientists for years have known that crows have great memories, that they can recognize a human face, their behavior and can pass that information onto their offspring. (AP Photo/Elaine Thompson)

"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 this Thursday, March 10, 2016 photo, a crow begins to take flight after grabbing a peanut left by Darryl Dyer on his usual route in Seattle. For nearly every step of his almost 12-mile hike, Dyer says flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. Scientists for years have known that crows have great memories, that they can recognize a human face, their behavior and can pass that information onto their offspring. (AP Photo/Elaine Thompson)

"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.



In this Thursday, March 10, 2016 photo, a crow holds three peanuts tossed by Darryl Dyer as he walks his usual route in Seattle. For nearly every step of his almost 12-mile hike, Dyer says flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. Scientists for years have known that crows have great memories, that they can recognize a human face, their behavior and can pass that information onto their offspring. (AP Photo/Elaine Thompson)





In this Friday, March 11, 2016 photo, Darryl Dyer tosses peanuts to crows as he walks his usual route in Seattle. For nearly every step of his almost 12-mile hike, Dyer says flocks of crows follow him, signaling each other, because they all know that he's the guy with the peanuts. Scientists for years have known that crows have great memories, that they can recognize a human face, their behavior and can pass that information onto their offspring. (AP Photo/Elaine Thompson)



In this Dec. 16, 2015 photo, University of Washington graduate student Loma Pendergraft holds a crow coming off sedation after the bird's brain was scanned at the University of Washington's medical center in Seattle. The crow is part of research inspecting the bird's brain activity at the sight of food. Over the years, University of Washington research has shown crows can recognize individual faces, and pass down through generations whether that face is friend or foe. One of their latest experiments found that crows are also keen observers of death. (AP Photo/Manuel Valdes)



In this Dec. 16, 2015 photo, professor John Marzluff inspects a crow before the bird's brain is scanned at the University of Washington's medical center in Seattle. The bird is part of research inspecting the bird's brain activity at the sight of food. Over the years, University of Washington research has shown crows can recognize individual faces, and pass down through generations whether that face is friend or foe. One of their latest experiments found that crows are also keen observers of death. (AP Photo/Manuel Valdes)





In this Dec. 16, 2015 photo, professor John Marzluff moves a sedated crow after the bird's brain is scanned at the University of Washington's medical center in Seattle. The bird is part of research inspecting the bird's brain activity at the sight of food. Over the years, University of Washington research has shown crows can recognize individual faces, and pass down through generations whether that face is friend or foe. One of their latest experiments found that crows are also keen observers of death. (AP Photo/Manuel Valdes)



In this Dec. 16, 2015 photo, University of Washington graduate student Loma Pendergraft holds a crow coming off sedation after the bird's brain was scanned at the University of Washington's medical center in Seattle. The crow is part of research inspecting the bird's brain activity at the sight of food. Over the years, University of Washington research has shown crows can recognize individual faces, and pass down through generations whether that face is friend or foe. One of their latest experiments found that crows are also keen observers of death. (AP Photo/Manuel Valdes)

© 2016 The Associated Press. All rights reserved.

Citation: In death, a crow's big brain fires up memory, learning (2016, March 17) retrieved 27 April 2024 from <https://phys.org/news/2016-03-death-crow-big-brain-memory.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.