

Dogs know a left-sided wag from a right

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You might think a wagging tail is a wagging tail, but for dogs there is more to it than that. Dogs recognize and respond differently when their fellow canines wag to the right than they do when they wag to the left. The findings reported in the Cell Press journal *Current Biology* on October 31 show that dogs, like humans, have asymmetrically organized brains, with the left and right sides playing different roles.

The discovery follows earlier work by the same Italian research team, which found that dogs wag to the right when they feel positive emotions (upon seeing their owners, for instance) and to the left when they feel negative emotions (upon seeing an unfriendly dog, for

example). That biased tail-wagging behavior reflects what is happening in the dogs' brains. Left-brain activation produces a wag to the right, and right-brain activation produces a wag to the left.

But does that tail-wagging difference mean something to other dogs? Yes it does, the new study shows.

While monitoring their reactions, the researchers showed dogs videos of other dogs with either left- or right-asymmetric tail wagging. When dogs saw another dog wagging to the left, their heart rates picked up and they began to look anxious. When dogs saw another dog wagging to the right, they stayed perfectly relaxed.

"The direction of tail wagging does in fact matter, and it matters in a way that matches hemispheric activation," says Giorgio Vallortigara of the Center for Mind/Brain Sciences of the University of Trento. "In other words, a dog looking to a dog wagging with a bias to the right side -- and thus showing left-hemisphere activation as if it was experiencing some sort of positive/approach response -- would also produce relaxed responses. In contrast, a dog looking to a dog wagging with a bias to the left -- and thus showing right-hemisphere activation as if it was experiencing some sort of negative/withdrawal response -- would also produce anxious and targeting responses as well as increased cardiac frequency. That is amazing, I think."



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Credit: Siniscalchi et al.

Vallortigara doesn't think that the dogs are necessarily intending to communicate those emotions to other dogs. Rather, he says, the bias in tail wagging is likely the automatic byproduct of differential activation of the left versus the right side of the brain. But that's not to say that the bias in wagging and its response might not find practical uses; veterinarians and dog owners might do well to take note.

"It could be that left/right directions of approach could be effectively used by vets during visits of the animals or that dummies could be used to exploit asymmetries of emotional responses," Vallortigara says.

Story Source:

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Journal Reference:

1. Siniscalchi et al. **Seeing left or right asymmetric tail wagging produces different emotional responses in dogs.** *Current Biology*, 2013 DOI: [10.1016/j.cub.2013.09.027](https://doi.org/10.1016/j.cub.2013.09.027)
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