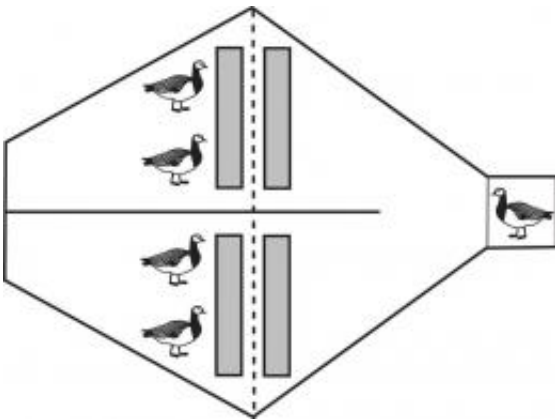


# Personality of geese determines their foraging behaviour

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Experimental set-up to explore the use of social information among geese. The goose on the right is watching one group of geese eating (above) and another group not eating (below). Shy geese will join the geese with food (grey areas are physically separate, but visible feeding troughs). If the troughs do not contain food, the geese switch to join the other group after a few vain attempts. Bold geese ignore the behaviour of both groups of geese.

When searching for food, slow, shy barnacle geese follow information given by their flock mates. On the other hand, fast, bold geese ignore this type of information and go off in search for food on their own. Whether barnacle geese make use of social information (information from other individuals) depends on their personality. This is the conclusion drawn by ecologists from Wageningen University and their colleagues from the Netherlands Institute of Ecology in the journal

*Ecology Letters.*

Researchers from Wageningen University, part of Wageningen UR, and the Netherlands Institute of Ecology (NIOO) determined the [personality](#) of the barnacle [geese](#) by studying their reactions to novel objects, such as a piece of carpet. Some of the geese approached the object directly without signs of fear ('bold'), while others were slower and more cautious ('shy') about approaching the strange object.

## **Experiment**

To find out whether and how barnacle geese use social information, the research team set up an experiment whereby all of the bold geese and the shy geese were given a minute and a half to watch two groups of barnacle geese. One group of geese was given food, the other group was not. The behaviour of these two groups differed according to whether or not they were given food.

This behavioural difference, which was visible to the geese watching them, is a source of social information about the [food supply](#). After watching the two groups, each goose was allowed to decide which group it wanted to join. Food was only made available to the geese on the side where the geese it had watched had been given food.

## **Personality**

The shy geese joined the group that was eating, while the bold geese ignored the social information and went searching for food on their own. The personality of the geese was the determining factor in whether they used the social information or not.

But how consistently did the geese use the social information? In a

follow-up experiment, the researchers tested whether the shy geese would continue to use the information even if it proved to be incorrect. Once again, there were two groups, one with food, the other without. However, this time the food for the geese watching was placed on the side where the geese had not been fed.

The researchers saw that at first, the geese joined the group they had seen eating. After trying this a few times, the geese stopped because the social information given by the geese they had been watching turned out not to correspond with the actual location of the food. The shy geese had therefore learned that the social information was no longer valid and decided to ignore it when choosing a group. The bold geese had not used the information anyway and were therefore not fooled by the false information.

This behavioural study shows that personality plays an important role in the use of social information. It has implications for the spatial distribution of populations in species whereby the use of social information plays a role, such as in choosing a place to land. Up until now, it had been assumed that all individuals were equally likely to make use of information gleaned from their own sort. This study proves that personality plays an important part in the way this information is used and therefore also in the spatial distribution of various personalities within a population.

**More information:** Ralf H.J.M. Kurvers, Kees van Oers, Bart A. Nolet, Rudy M. Jonker, Sipke E. van Wieren, Herbert H.T. Prins and Ron C. Ydenberg. Personality predicts the use of social information, Ecology Letters. [doi: 10.1111/j.1461-0248.2010.01473.x](https://doi.org/10.1111/j.1461-0248.2010.01473.x)

Provided by Wageningen University

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