

Gene study offers clues on memory puzzle

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Scientists have shed light on why it is easier to learn about things related to what we already know than it is to learn about unfamiliar things, according to a new study.

The team says this is a paradox, as very different things are arguably more novel, yet adding to what we already know is so much easier.

Researchers at the Universities of Edinburgh and Tokyo have found that building on existing knowledge activates a key set of genes in the brain.

These 'plasticity' [genes](#) do not respond so well to subjects about which we know very little, making it harder for us to form [new memories](#) about unfamiliar topics.

The team says this could help us understand how professionals acquire their knowledge gradually over time and may inform new educational strategies to boost learning.

The study, conducted in partnership with Mitsubishi Tanabe Pharmaceutical Company, was funded by the Medical Research Council.

The findings have been published in the journal *Science*.

Professor Richard Morris of the University of Edinburgh, who led the study, said: "This curious effect is seen in a specific part of the [cortex](#) whose functions are still poorly understood – so there is still much work to be done. But a combination of biomedical and human brain imaging

work has this as a key aim for future research. We also plan to look at how professional knowledge is gradually acquired and organised in the brain".

Provided by University of Edinburgh

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