

People are visual detectives

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The house keys in a kitchen drawer full of mess. Or that one small piece of paper with notes on a table laden with other papers. In a brief glance, in a tenth of a second, people can determine if an object sought is present in a collection of other objects. We can do that because in a flash our brain calculates the probability of the object concerned being found among other things. This is the conclusion of Dutch researcher Ronald van den Berg who published his findings this week in the scientific journal *Nature Neuroscience*.

Van den Berg investigated how our brain works if we search for one object in the middle of other objects. He discovered that this happens in a highly efficient manner. Even if the object is not clearly visible our brain knows to make the right connections. "Our brain appears to use the available information as effectively as possible. We call this optimal search behavior," explains Van den Berg.

Optimal searching means: the brain calculates the probability that the object sought is in view. Only if that probability is greater than 50% does the [brain](#) say: yes, the object sought is here. "You could say that people are visual detectives," says Van den Berg.

Based on their outcomes, Van den Berg and his colleagues used [computer simulations](#) to build a [neural network](#) that exhibits the same search behavior as people. They can use this network to further extend their research.

Van den Berg carried out his research at Baylor College of Medicine in

Houston, Texas with the support of a Rubicon grant from the Netherlands Organisation for Scientific Research. Rubicon is aimed at talented young scientists who have recently gained their PhDs. With a Rubicon grant they are given the opportunity to gain two years of research experience at a university or research institute abroad.

Provided by Netherlands Organisation for Scientific Research (NWO)

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