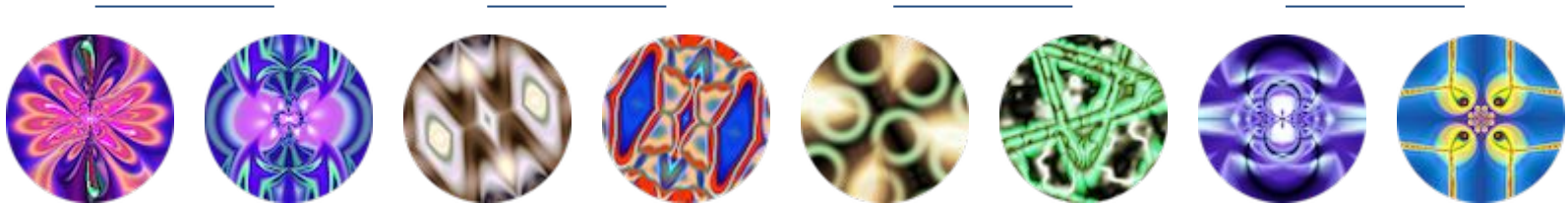


# STATISTICAL PATTERN LEARNING

When exposed to a continuous stream of elements that contains embedded patterns (for example pairs of elements that always appear one after the other), most people **implicitly** learn those patterns.

Indeed, in the experiment you participated in, the long stream of colourful disks you watched consisted of several pairs.

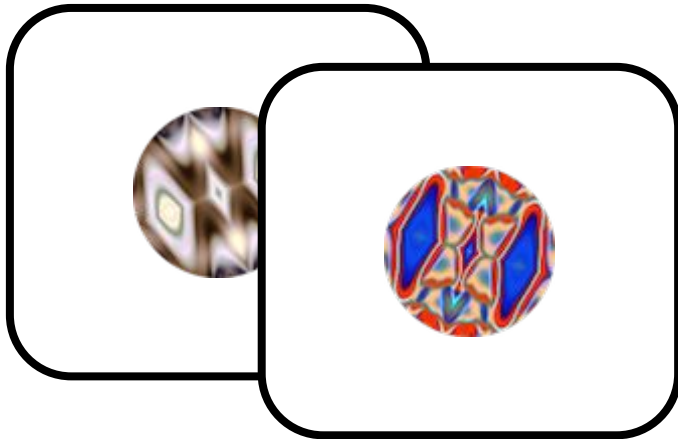


**Implicit** here means that the person is likely not aware of the fact that they have learned.

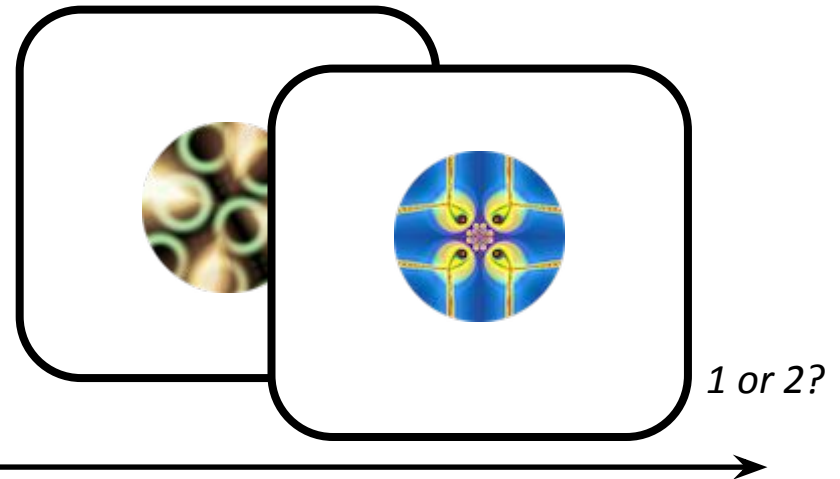
# STATISTICAL PATTERN LEARNING

Indeed, in the experiment you participated in, we tested your knowledge of the pairs by making you choose between a real pair and a “fake pair” (we call these foils).

*Real pair*



*Foil : combination of shapes  
that did not occur in this order*



# BRAIN OSCILLATIONS

The term “brain oscillations” refers to the rhythmic and/or repetitive electrical activity of the brain.

When people learn the patterns we can measure brain oscillations not only at the **frequency of presentation of individual stimuli** but also at the **pattern frequency**.

It has been proposed that the oscillations at the **pattern frequency** help learning.



Neural  
response



2 Hz stimuli rate

1 Hz pair rate

# THIS STUDY

In this study, we aimed to test the importance of the brain oscillations at the **pattern frequency** for learning.

## DESIGN

We had two **between-subject conditions**, you participated in one of them.

In **condition1** the timing of the colourful disks allowed for brain oscillations at the **pattern frequency** for learning to occur.

In **condition2** the timing of the colourful disks was irregular so that brain oscillations at **pattern frequency** for learning could not occur.

## PREDICTION

We predict better performance on the test for participants in **condition1**.