

## Illusions

From 6 November 2018 to 25 August 2019

Au Palais de la découverte

«In the exhibition ‘Illusions’ at the Palais de la Découverte, we are breaking a taboo by revealing to our visitors the secrets of various kinds of ‘magic’. In fact, all we are doing is unravelling the different phenomena that trick our senses. To that end, and as we have always done in our scientific establishments, we invite our visitors to roll up their sleeves and take part in the exhibition to debunk the myths surrounding these illusions...» Bruno Maquart, chair of Universcience.

On show at the Palais de la Découverte from 6 November 2018 to 25 August 2019, the exhibition ‘Illusions’ lifts the veil on the amazing world of illusions. Whether apparent paradoxes or other distortions of our senses, natural or man-made illusions have always fascinated us. Designed for adults and children from age 7, this exhibition features around forty fun experiences introducing these phenomena and explaining the tricks they play on our minds. It is sure to amaze and surprise!

### On the importance of illusions

Magic, kinetic art, installations... illusions are regularly used to amaze and surprise, to impressive effect and the amusement of all. But why is the brain susceptible to this trickery? And how do these stratagems play on the way we think? In reality, there is nothing magic about them; it is all a question of interpretation. Perception is a dynamic cerebral process very different to simply taking a snapshot of reality. In our rational world where logic holds sway, when we are challenged by illusions our points of reference fall apart like a house of cards and we ‘lose our heads’.

### When our senses deceive our brains

Optical illusions create a fake reality caused by errors in our perception of the shape, colour, dimensions, relief or movement of certain objects. Our senses perceive something that requires our brain to ‘fill in the gaps, interpreting a sensation by calling on previous experience according to the rules of ‘logic’. Illusions that challenge the brain can be of several different types: visual (the most common), but also auditory, tactile and others too.

This exhibition features around forty interactive illusion situations. The exhibits explain the different categories of illusion, depending on the different ways the brain processes the information it receives. When our brains analyse something, there are four mechanisms at work: interpretation, selectivity, sensitivity and expertise.

#### ► Interpretation – when certainties deceive

The brain identifies objects and people. To do this, it uses knowledge buried in our memory to recognise things that have meaning. If the information that the brain receives is incomplete, or the characteristics of an object are distorted, it fills in the gaps by interchanging aspects of it, using our memory and contextual indices to make ‘corrections’. But beware! It can make mistakes – and that is how illusions happen.



Exhibition produced by Bloomfield Science Museum, Jerusalem. Event organized as part of the France-Israel 2018 season, with support of the Institut Français and the sponsor committee of the France-Israel 2018 season.



Manifestation organisée dans le cadre de la Saison France-Israël 2018



Comité des mécènes de la Saison France-Israël 2018



Minimum age 7 years.  
Trilingual (French, English and Spanish).

#### ‘Getting your hands dirty’

This editorial line includes exhibitions that demonstrate technical expertise, highlight industrial innovation and creativity and feature the engineering sciences. Taking an in-depth look at a host of incredibly useful objects made by man or machine, this exhibition examines and explains every aspect, exploring technical genius at work.

### ► **Selectivity – making choices**

The brain's perception processes operate on the basis of a set of hypotheses acquired through experience. One of these hypotheses is that there is only one correct way of interpreting the information provided by our senses. The brain chooses this interpretation, in most cases unconsciously. When presented with an ambiguous image with two possible interpretations, the brain switches between the two outcomes, unable to choose.

### ► **Sensitivity – the influence of comparison**

The senses receive information from the body and its surroundings. To cope with this continuous flow of information, the brain focuses on the information that is most important to its functioning and pays less attention to other information. As a result, our brains detect sudden changes in time or space more easily than gradual changes such as a change in light intensity. Hot or cold? Little or big? It all depends on the reference used to make the comparison!

### ► **Expertise – mixing up the senses**

The human brain has developed areas of expertise that enable it to judge reality effectively, such as telling people's faces apart. However, this expertise is based on a set of inflexible prior hypotheses, and this makes our brains vulnerable. It means we can automatically interpret a wide variety of information, but it also sometimes makes it impossible to resolve inconsistencies.

## **In connection with the exhibition**

### **Illusions that trick the brain – Facilitation session for schools** (in French only)

Through various simple experiments and illusions, this session looks at how our sensory receptors work, how the brain processes information, the factors that influence our perception, and more. The session demonstrates that perception is multisensory and is the result of a set of complex, active and 'integrated' results.

*Suitable for secondary school students of all ages, duration: 1 hour, exhibition education space*

## **Informations pratiques**

### **Palais de la découverte**

avenue Franklin-Roosevelt - 75008 Paris  
📍 Franklin Roosevelt ou Champs-Élysées Clemenceau

### **Public information**

01 56 43 20 20

### **Opening hours**

Every day except Monday from 9h30 am to 6 pm, and 7 pm on Sunday.

### **Admission rates**

Full rate: €9 – reduced rate: €9 (over 65s, teachers, under 25s, large families and students).

→ Free for the under 6s, jobseekers and recipients of minimum social benefits, the disabled and their carers.

**[www.palais-decouverte.fr](http://www.palais-decouverte.fr)**



## **Press Information**

### **Aurore Wils**

01 40 05 70 15 / 06 46 66 18 97  
[aurore.wils@universcience.fr](mailto:aurore.wils@universcience.fr)