RELATED ARTICLES

- Talking about 'loves' of Greek Gods

FEATURED TODAY IN HOME

- VMC mulls crocodile park near Kamatibaug
- Slender Loris thrive in Bengaluru's green spaces
- Asiatic lion may continue to be in endangered category
- Satkosia wildlife sanctuary: No live fish on gharials' menu
- Honey Badgers not so rare: Study
- Tamil Nadu to open 25 ecotourism sites, locals to play guides
- Foresters relocate 140 deer from Chennai streets to zoo
- Leopard killed in MP, 3 held
- Train kills tigress in Uttarakhand
- Critically endangered bird sighted at Tansa sanctuary

RELATED KEYWORDS: University-Of-California | MIT | Continuity-Field

Why we miss visual changes in movies or real world

IANS | Mar 31, 2014, 01.07PM IST

The researchers from University of California (UC), Berkeley, and Massachusetts Institute of Technology (MIT) have discovered a 'continuity field' in which the brain visually merges similar objects seen within a 15-second time frame. (Thinkstock photos/Getty Images)

NEW YORK: In a first, scientists have discovered an upside to the brain mechanism that can blind us to subtle visual changes in movies and in the real world.

The researchers from University of California (UC), Berkeley, and Massachusetts Institute of Technology (MIT) have discovered a 'continuity field' in which the brain visually merges similar objects seen within a 15-second time frame.

So, now you can understand how you missed actor Julia Roberts' croissant inexplicably morphing into a pancake in the film "Pretty Woman".

Unlike in the movies, objects in the real world do not spontaneously change from, say, a croissant to a pancake in a matter of seconds, so the continuity field stabilises what we see over time.

"The continuity field smooths what would otherwise be a jittery perception of object features over time," said David Whitney, an associate professor of psychology at UC Berkeley and senior author of the study.

Essentially, it pulls together physically but not radically different objects to appear more similar to each other.

"This is surprising because it means the visual system sacrifices accuracy for the sake of the continuous, stable perception of objects," he added.

Conversely, without a continuity field, we may be hypersensitive to every visual fluctuation triggered by shadows, movement and myriad other factors.

For example, faces and objects would appear to morph from moment to moment in an effect similar to being on hallucinogenic drugs, researchers said.

"The brain has learned that the real world usually does not change suddenly, and it applies that knowledge to make our visual experience more consistent from one moment to the next," said Jason Fischer, a post-doctoral fellow at MIT.

To establish the existence of a 'continuity field', the researchers let participants view a series of bars, or gratings on a computer screen.

The gratings appeared at random angles once every five seconds.

The researchers found that instead of precisely matching the orientation of the grating, participants averaged out the angle of the three most recently viewed gratings — described as 'perceptual serial dependence'.

The research was published in the journal Nature Neuroscience.