



Déjà Vu

Introduction to Cognitive Science

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What is Déjà Vu ?

"Paramnesia"-from the Greeks

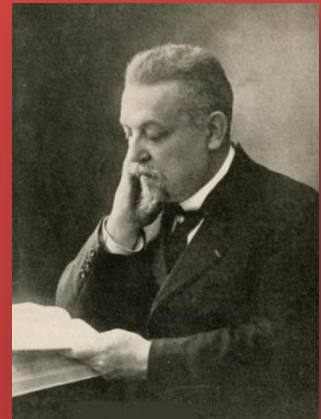
An individual feels as though an event has already happened or has happened in the recent past.

The feeling of Déjà vu is usually accompanied by a compelling sense of familiarity and a sense of eeriness.

Historical Background

First noticed by **Émile Boirac** (1851-1917),
a French psychic researcher.

Name was coined after an essay in his book,
“L'Avenir des sciences psychiques”
(The Future of Psychic Sciences).



Types of Déjà Vu

- **Déjà vecu** (already experienced or lived through)
Otherwise known as déjà vu, experiences occur more frequently between the ages of 15 and 25.
- **Déjà senti** (already felt)
Appears in temporal lobe epilepsy attacks.
- **Déjà visite** (already visited)
has to do with geography, with the three spatial dimensions of height, width and depth.

Causes ?

Theory 1 : Theory of familiarity-based recognition

Experiences are stored in our memory as individual elements or fragments. Déjà vu may occur when specific aspects of a current situation resemble certain aspects of previously occurring situations; if there is a lot of overlap between the elements of the new and old situations, we get a strong feeling of familiarity.

Experimental Evidence

- Cognitive psychologist Anne Cleary at Colorado State University.
- 3-D virtual-reality depiction of a village of structures they called "Deja ville,".
- Created with the game The Sims 2.
- Chairs and artwork in the same places on a grid to create identical layouts as in **real space**.



Theory 2:

One eye may record what is seen faster than the other

Creates that "strong recollection" sensation upon the "same" scene being viewed milliseconds later by the opposite eye.



Theory 3: Asynchronicity

Another theory based on neurological function also takes a “recall” approach. It argues that the cerebral hemispheres may temporarily lose synchronicity. The anomalous feeling of familiarity may be due to the fact that one side of the brain is receiving input (the “first” occurrence) a microsecond before the other (which apparently registers a “second” occurrence).

Similar Phenomenon

- *Jamaisvu*, “never seen” in French

Used to describe any familiar situation which is not recognized by the observer

- *Presque vu*, “almost seen” in French

Also called “tip of the tongue”

- *L'esprit de l'escalier*, “staircase wit” in French

Remembering something when it is too late

Déjà vu Linked With Disorders

- **Pharmacology** Reports say that certain drugs increase the chances of déjà vu occurring in the user. *Hyperdopaminergic* action in the mesial temporal areas of the brain.

- **Memory-based explanations**

Memory trace may lead to the sensation. *Cryptamnesia*: information learned is forgotten yet stored in the brain, and occurrence of similarities invokes the contained knowledge, leading to a feeling of familiarity because of the situation, event or emotional/vocal content.

- **Neural Theories**

Could be caused by the mis-timing of neuronal firing. Split second re-start to the neural system.

Alternative Explanations For Déjà vu

Parapsychology - cited for evidence of psychic abilities.

Dreams - *déjà vu* may be the memory of dreams.

Reincarnation - *déjà vu* may be caused by fragments of past life memories being jarred to the surface of the mind by familiar surroundings or people.

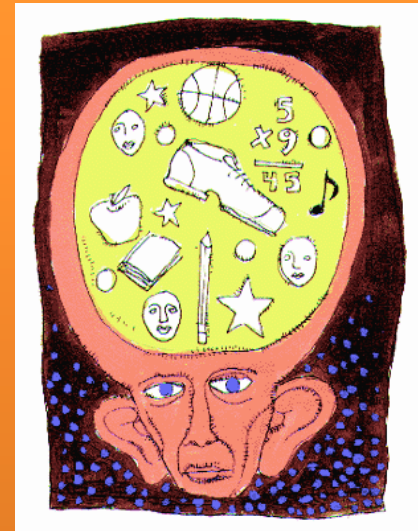
How does it work?

- There are portions of the brain that are specialized for the past, the present and the future.
- The **temporal lobes** are concerned with the **past**,
- The **frontal lobes** are concerned with the future,
- The underlying, intermediate portions (**the limbic system**) are concerned with the present.
- The structure that overwhelms our consciousness when we are 'in the present' is the **amygdala**. It assigns an emotional 'tone' to our perceptions.
- The **amygdala** also recognizes expressions on people's faces.

How does it work ?

Each instance the self is able to manifest a new emotional response, but only if circumstances have changed.

- Every 25 milliseconds.
- The duration of the 'present' in neurological terms is so brief that we don't experience it so much as remember it.



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" Right now, I am having amnesia and déjà vu at the same time, I think I've forgotten this before,"

- Steve Wright

THANK YOU 😊