• Synesthesia is the neurological phenomenon where one sense is simultaneously perceived by another.
  – Example: When an order is smelled, a sound is heard as well.

• 5 Criteria for diagnosis:
  – Involuntary
  – Projected
  – Memorable
  – Durable and Generic
  – Emotional

What is going on?
2 theories:
• Increased cross-talk between regions between regions of the brain specifically for one sense.
• Lack of disinhibited feedback in brain

Synesthesia can be induced by:
  ➢ Trauma
  ➢ Temporal Lobe Epilepsy
  ➢ Sensory Deprivation
  ➢ Stroke
  ➢ Brain Tumor
  ➢ Sensory Deprivation
  ➢ Psychedelic Drugs

Source: http://faculty.washington.edu/chudler/syne.html
Possible Practical Applications

• Trying to mimic synesthesia to create pain reducing virtual reality program
• Purpose is to reduce pain when undergoing a specific treatment by shifting the attention from the experienced pain to the virtual program in which the patient is participating.
• By using artificial synesthesia and combining various senses, this can help to enhance the control of a person’s attention, which can be used to improve and direct sensory distraction from the perceived pain.