

Haunt Design for the 5, or more, senses

by Darryl Plunkie

The Science of it all

Environment ⇒ Sensory organ ⇒ Chemical changes build up potential ⇒ Avalanche to nerves ⇒ Brain
⇒ via nerves to other parts of brain *or* body

- We don't see until enough light hits our eyes, enough sound reaches our ears, enough pressure or movement hits our skin.
- We become accustomed to environment - our vision adapts to light or dark, we become nose blind, we don't feel the chair we are sitting on, as neurons tire out.
- Opposite neurons are inhibited, but can avalanche when not repressed.
- Different parts of the brain do different things - the area from recognizing an object and telling where object is are in different parts of the brain. The brain decides what is important...
- Inference - your brain makes things up, like 24 still frames of a movie that appear to move like an object in real life.

Sense of Taste

- Start from queue line - make customers imagine tastes - good or bad.
- Challenge them to eat something awful - like mealworms.
- Challenge them to lemon eating - after actors have Miracle Berries
- Very closely linked with smell - which is why food doesn't taste as good when you have a cold

Sense of Smell

- Humans have about six million receptors, about 300 types of receptors and we can detect thousands of different combinations (dogs have about 300 million receptors, plus a larger brain area devoted to the sense of smell)
- Skips the nerves, goes directly to the brain, but also takes longest to reset.
- Scents can trigger memories - like Grandma's Apple Pie or the scent of a scary clown. Combine real-world scents with scary memories to make people remember you long after the haunt.
- You can go nose blind - loss of smell of certain scents until something different appears

Senses of Touch

- Several different touch receptors in skin - pressure, vibration, heat, cold, whether your muscles are stretched or contracted, plus others.
- Your customers don't touch props, but they feel the floors, handrails, walls when they bump into them.
- Proprioception - where your body parts are in relation to each other
- Balance - affected by vision + inner ear + proprioception

- Vortex tunnels affect balance because sight doesn't match inner ear signals so body tries to correct. Unsuccessfully...
- Moving floors or off-kilter rooms can also affect balance and proprioception.

Sense of Hearing

- Two ears and pinna (outer ear) help tell where sound coming from - except bass or below
- Separating stereo signals a few milliseconds will "move" sound
- Subsonics, or infrasonics - means below hearing - of 12-17Hz felt by body, mistaken for paranormal incidents, can make customers and staff uneasy

Sense of Sight

- Two kinds of receptors - Cones: detail and color. Rods: low light but no color
- Cones denser around center of eye, rods more dense around edge - brain "infers" color around edges and in blind spot.
- Eyes always moving - saccades and micro tremors - because programmed to see movement
- Opposite inhibition - when one neuron active, opposite is repressed. When stimulation removed, opposite neurons often avalanche.
- Color - red and green opposites, blue and yellow opposites
- Red walls and sidewalks used by Disney to make trees and grass seem "greener"
- Green hallway light before bloody room (in white light) can make color "pop"
- Red light on white wall + red writing = invisible. Under green light, writing appears dark. (may not work for color blindness, about 8% of male population, 1 in 200 women)
- Induction of complementary colors leave afterimage - stare at weird image a minute and then look at blank wall to see the inverse image
- Use sound to get customers to look somewhere, then flash them with strobe light - afterimages around periphery of vision
- Induction and Inhibition also works with movement - have pinpoints or streaks of light moving from floor to ceiling for a moment, then go to darkness.
- Misdirection - use sounds, lights, or an actor staring somewhere to get the customer to look there.
- Most of all it's about contrast - don't repeatedly do same thing to any of the senses because they get tired from one stimulus and they become less effective over time.

Importance of senses for your actors

- Impaired/reduced vision - use high-contrast shadows for visual clues.
- Sound cues from previous room and your room's cues for next room.
- Actor's proprioception and awareness of room can make up for vision loss.

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