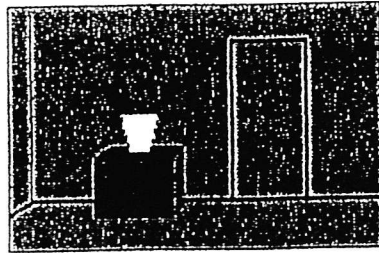
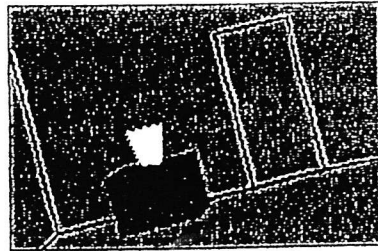


The sensory mismatch: Another aspect to the balance system is the production of "vegetative symptoms" -- queasiness, nausea, vomiting, etc., -- when the various sensory inputs don't agree with one another.



Visualized



Actual

A prime example of this occurs on a ship in a storm. As a person looks across the room, everything appears upright, but their gravity sensors (in the inner ear) and pressure sensors in their feet are telling them that the room is actually tilted at an angle. This is called a "sensory mismatch", a conflict between one cue and another, in this case between vision and gravity perception. The mismatch tends to throw the brain into a state of confusion, resulting in lightheadedness, nausea and/or vomiting. We call this "sea-sickness", "car-sickness", etc., depending on where it occurs, but the basic cause is the same.

The balance system 102: How it can malfunction:

Top of Page

A sensory mismatch also occurs in certain inner ear disorders, producing the same symptoms. For example, in *Meniere's disease*, fluid pressure in the inner ear can give a false cue to the brain that the body (or the room) is spinning, but vision and the pressure on the feet indicate otherwise. The resulting nausea is similar to being sea-sick.

In **Benign paroxysmal positional vertigo (BPPV)**, abnormal particles in a semicircular canal cause currents when the head is tilted, creating a false cue of spinning. This can result in a loss of balance because of disorientation, and nausea because of the sensory mismatch.