

## Case Study #2

### Learning Objectives:

1. Learn the drugs that effect the functioning of Acetylcholine, the Monoamines, and the Amino Acid neurotransmitters.
2. Know the method of action for the above drugs (ie: agonistic or antagonistic) and why (stops production, blocks reuptake, etc).
3. Know the anatomy of the visual cortex
4. Learn the role of the striate cortex in visual perception.
5. Know the role of the visual association cortex

### Scenarios:

- a. Mr. Stynman, a 32 year old, single male was found alone in his apartment by the police over a plate of (once) freshly made penne pasta with tomato sauce. Seeing his flight stubs on the kitchen table from South America. Examining his body, the police find several small puncture wounds on his arms and legs. They notice the lack of tonicity in his muscles. Having taken (though barely passed) an intro to psychopharmacology course, the officer on the scene assumes that death was caused by sudden paralysis, induced by the famous curare poison, which was most likely on the tips of territorial plants that scored his skin.
- b. Several years ago, an aspiring artist fell backwards off the sidewalks of New York. He consequentially hit the back of his head on the lip of the curb. Upon awakening at the hospital he was horrified to find a statue of his wife standing over him. Only she wasn't a statue. The artist had lost the perception of color, making his wife and all around him appear in hues of pasty gray.

### Questions:

1. Is the police officer correct in his assertion that curare poison causes paralysis (not necessarily in Mr. Stynman)?
2. What is curare's method of action (what causes paralysis if curare is used)?
3. What's wrong with the thought that curare injections from days ago caused the death of Mr. Stynman?
4. Upon searching Mr. Stynman's apartment, the police find scores of empty tomato sauce cans. This sauce is actually from a company that was recently cited for having unsanitary canning facilities. Knowing this, what is the most likely cause of Mr. Stynman's death?
5. The New York artist also reported having trouble distinguishing pieces of paper on a counter top. Why? Is color important to see a piece of paper on a counter?
6. When the New York artist fell and hit his head, what area of the brain did he most likely damage?
7. In your opinion, was this damage unilateral, or bilateral? Why?
8. In all likelihood will the ability to perceive color ever return to the artist?