WINOGRADSKY COLUMNS ILLUMINATED: THE EFFECT OF DIFFERENT LIGHT ON BACTERIA

GOAL
To observe the effects of different light on self-contained aerobic and anaerobic organisms.

HYPOTHESIS
Each different type will experience different reactions of the organisms, depending on the conditions. If the organism is more active the theory exposed U.V light should inhibit the most of the effects.

THE WINOGRADSKY COLUMN

ORGANISMS SEEN UNDER THE MICROSCOPE
- Cyanobacterium
- Protists

OTHER ORGANISMS OBSERVED
- Green Sulfur Bacteria (Chlorobium gen) (GENUS)
- Purple Non-Sulfur Bacteria (Rhodospirillum gen) (GENUS)

METHODS
1. To create Winogradsky Columns:
   a. Add about 1/4 of "pond" water to each of 4 test tubes
   b. Add about 2g of Calcium Sulfate and Sodium Phosphate and 1g of cellulose to each tube
   c. Add about 1/40 of "pond" water
2. Expose to light source: Natural conditions, Incandescent, Fluorescent, and Ultraviolet.
3. Observe changes in color and size of layers
4. Observe content of columns under a microscope

RESULTS
- Incandescent
  - Cyanobacteria and phosphates visible under the microscope in large concentrations in pond water
  - Sediment layer clearly visible in colonial
- Incandescent
  - Cyanobacteria and phosphates visible under the microscope in large concentrations in pond water
  - Sediment layer clearly visible in colony
- Natural Light
  - Cyanobacteria and phosphates visible under the microscope in pond water
  - Sediment layer clearly visible
- U.V. Light
  - Cyanobacteria and phosphates visible under the microscope in pond water
  - Sediment layer clearly visible in colony

CONCLUSIONS
The results support the hypothesis that different conditions affect the growth of the organisms, and that the chamber exposed to U.V light inhibited the most effects.

Possible factors affecting the results:
- Different in time of exposure to light

REFERENCES
http://www.example.com
http://www.example.org
http://www.example.net

Commonwealth Honors Program
Middlesex Community College
Poster Board Conference
TABLE # 35A
The Influence of Buddhism on Wang Wei's Poetry and Art

Thesis
Wang Wei's painting and poetry reflect his Chan Buddhist philosophy. The belief that words alone cannot adequately explain the true state of enlightenment. The natural world is the only reality, a person should live a life without delusions, effort, or purpose. The influence of Chan Buddhism is exhibited in Wang Wei's apparent rejection of words and the minimalism of his paintings.

Deer Park
Hills empty, no one to be seen.  
The hear only voices sounded.  
Sunlight turns back into the deep wood.  
The top of the green mound is slanted.  
--translated by C.S. Anderson, 1987

Deer Fence
Empty hills, none in sight,  
only the sound of someone talking.  
Sunlight turns into the deep wood,  
shining over the green mound.  
--translated byRuna Slaper, 1987

Character by Character translation

The Deer Park
An empty hill, and no one in sight  
But I hear the echo of voices  
The setting sun over the mountains,  
And shadows reflected on the blue river.  
--translated by Koen Stroes, 1992

The Forms of the Deer
"So leave your world, leave your world in sight;  
But where's the echo of words I hear?"  
The eyes of the evening fawn staring the frost,  
And in their reflection please women weep.  
--translated by M. Schafer, 1997

Snow over Trees and Mountains  
(Wang Wei's reproduction of Wang Wei's original)
Psychology Behind Dr. Jekyll and Mr. Hyde

Jekyll
- Kind-hearted, hospitable, loyal, friendly, well respected, intelligent, well
- Evil, gruesome, looking mechanical, secretive, over powering
- By: Jessica Jones

Mr. Hyde
- Eco
- Eco is based on the reality principle. Its job is to meet the needs of the ID while also taking into consideration the reality of the situation.
- Dr. Jekyll

ID
- The ID is based on our pleasures. It does what it wants without considering reality.
- Mr. Hyde

Super-ego
- The super-ego is the moral part of us. It dictates the belief of right or wrong.
The Freedom songs are playing on a radio in our thought. They gave the people new courage in the face of danger. It was through them that we learned to hold on to our ideals, our hopes, and our dreams for a better future.

New press a song on the piano, and become a musician.
Development of Memory in Individuals with Down Syndrome
Francisca Palacios, Middlesex Community College

Introduction
How do we recall situations of our past? How can we grow and learn based on past experiences? How does this ability develop in people with Down syndrome? Memory is the ability to remember situations as well as the capacity of remembering. Down Syndrome is a genetic disorder that affects directly the part of the brain that is involved with memory. Studies have shown that there is a link between Down syndrome and Alzheimer’s disease, that is a type of dementia causing the degeneration of memory.

Statistics
2% of the world’s population has Down Syndrome
6% of the world’s population has Alzheimer
At the age of 65, 96% of the population of Down syndrome people develops Alzheimer diseases

Conclusion
Memory develops differently in down syndrome individuals because of the basic impairment in the phonological loop of the brain. The link between Alzheimer disease and Down Syndrome is that both individuals have shown a great amount of beta-amyloid plaquets in the brain which causes the degradation of memory.