

# ***A Model for Retirement Enhanced Creativity***

***Perry Sprawls, Ph.D.  
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and  
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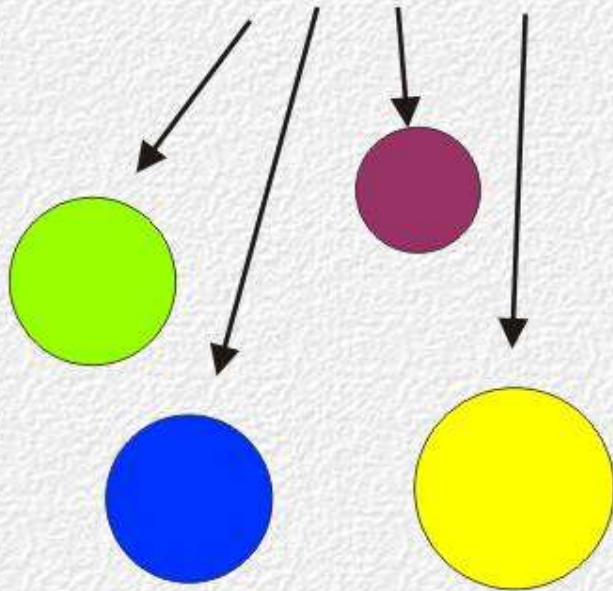
***Retirement***

***Career***

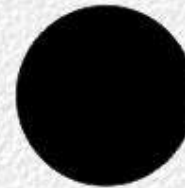
***Creativity***

# ***Making A Model***

***Observe***



***Identify  
Common Characteristics***





***All activities  
are somewhere on the scale.***



**Consumption**  **Creation**

# Retirement

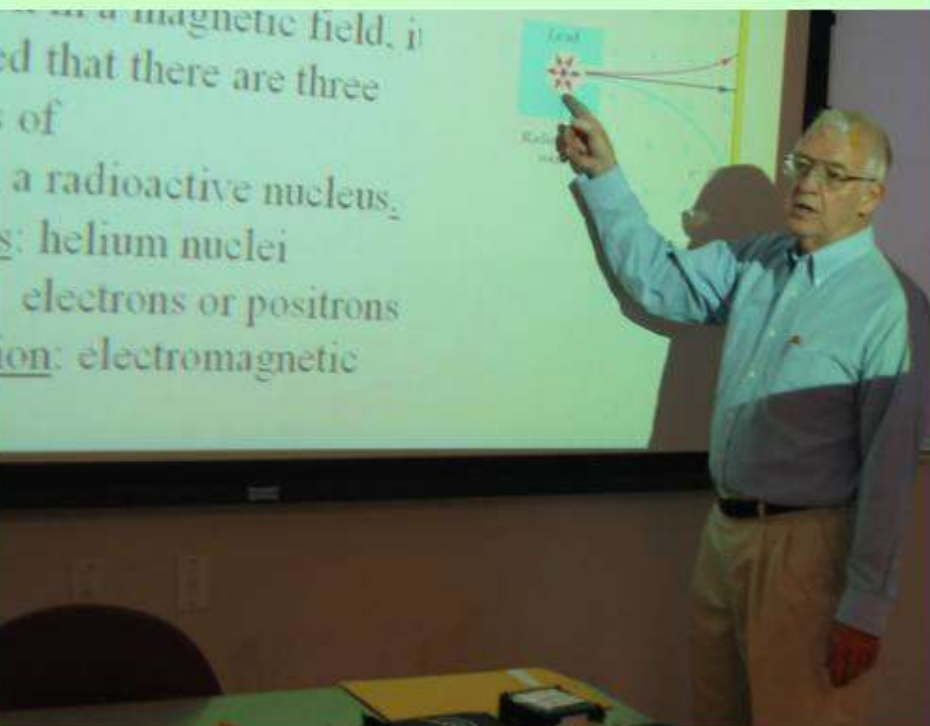
## Career





# Retirement

## Physics Professor



## Sculptor



# Sculptures of Scientists and Their Models

Chet Alexander

Science for the Scientists and Non- Scientists  
OLLI, Spring 2010

# Michael Faraday

British Physicist and Chemist (9/1791-8/1867)





# Wavepacket

$$a = \frac{\sqrt{2}e^{-\frac{x^2}{\sigma^2}}}{\sqrt{\pi}\sigma} \cos(x)$$

A wavepacket is a model to explain the wave and particle nature of electromagnetic radiation and of matter

Particle (envelope)

Wave (electric and magnetic fields)





# MAGNETIC FIELD OF A SPINNING CHARGE

When a charged particle spins, it creates a magnetic field.

This sculpture shows lines of magnetic field strength around the charge.

Examples, MRI, NMR, ESR, magnetic field of earth.



# ***Sir Isaac Newton***

British Physicist, 1642-1727

Relief Clay model



Relief in cherry wood





# On the Shoulders of Giants



# The Tree of Life

The double helix form is a reference to the double helix form of DNA, the genetic material of life. The helix flows from the base like the limbs of a tree.

Plywood





# Einstein Model of Warped Space

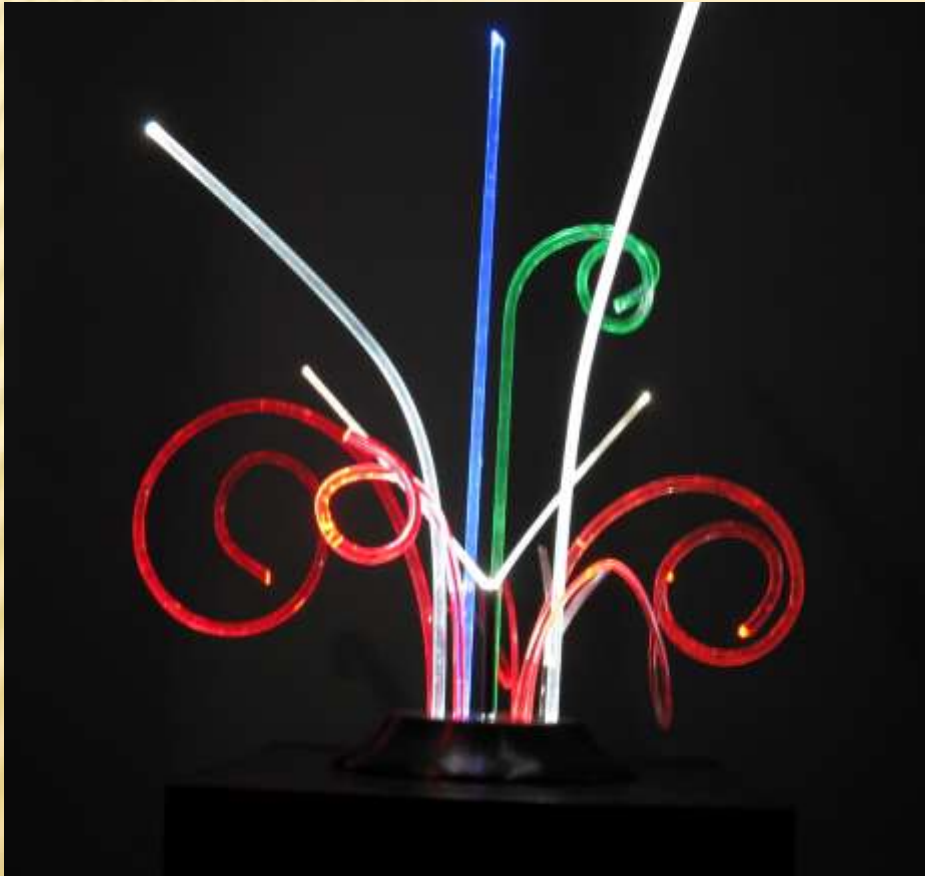
Large mass  
warps the space  
around it.  
The smaller  
mass orbits the  
larger mass by  
moving on the  
warped surface.

Barlett pear with  
walnut inlay.



# Tracks in a Particle Accelerator

$$F = QV \times B \quad (\text{Q charge, V velocity, B magnetic field})$$



Plexiglas rods and LED's



The **Higgs boson** is a hypothetical massive scalar elementary particle predicted to exist by the Standard Model in particle physics.

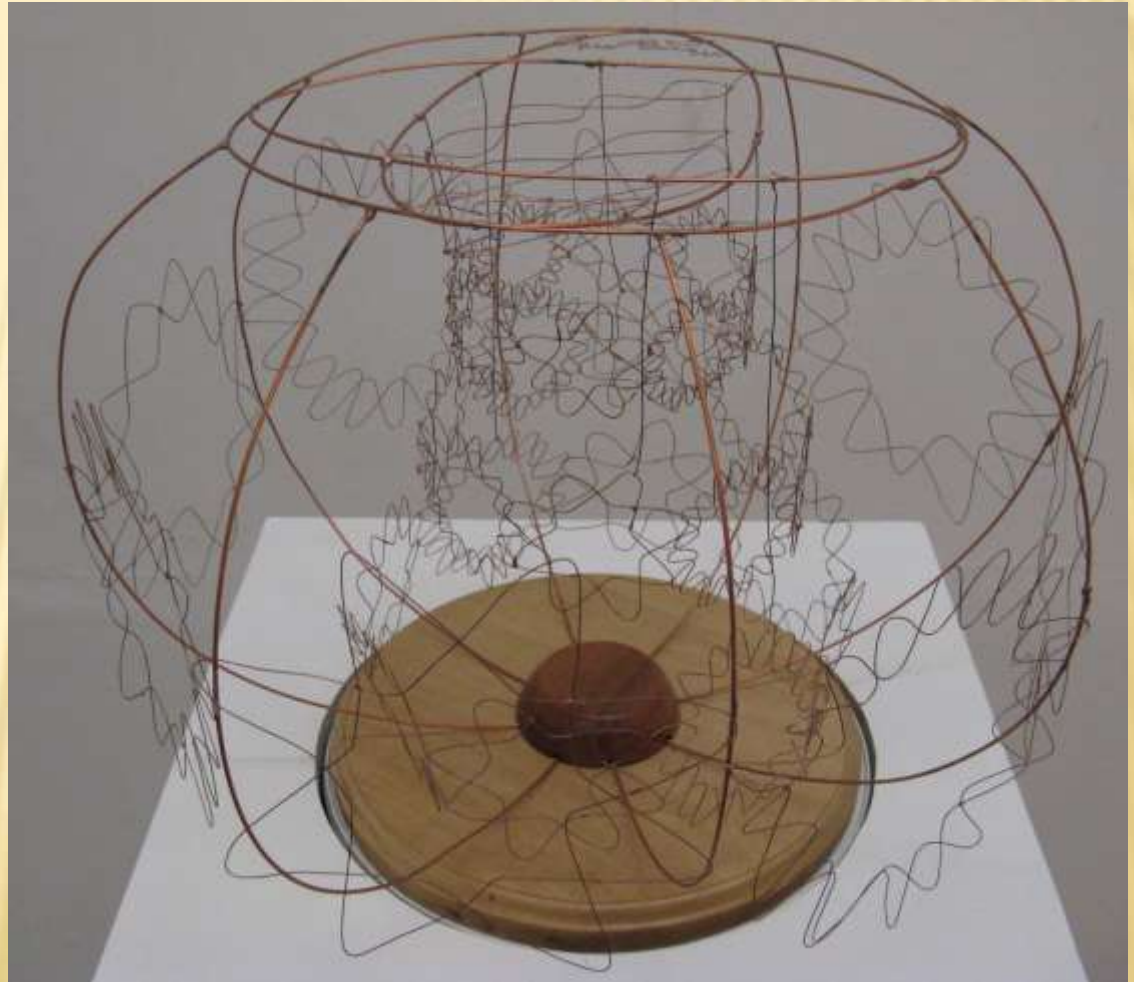
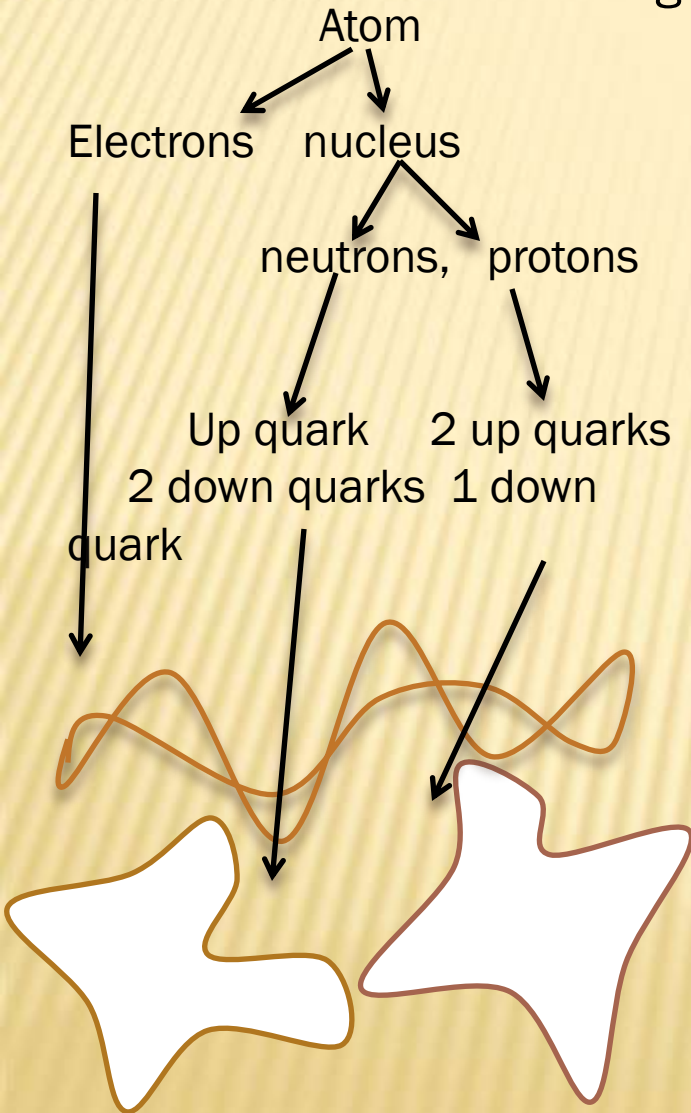
This potential energy has a graph which looks like a Mexican hat.



Sculpture of Walnut

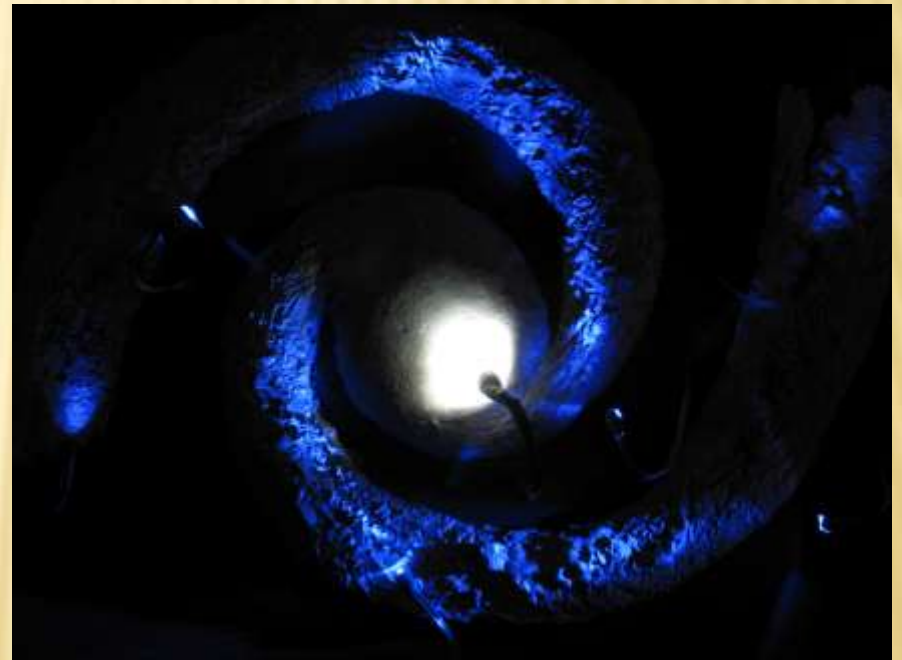
# String Theory Sculpture

Bring together quantum physics and general relativity





# A sculpture of a Spiral Galaxy



Bronze, with LED lights

# Maxwell's Demon

James Clerk Maxwell was a Scottish physicist who is most famous for his equations of electrodynamics.

Maxwell's Demon was a thought experiment to visualize the possible violation of the 2<sup>nd</sup> law of thermodynamics by a Demon controlling the flow of hot and cool molecules.

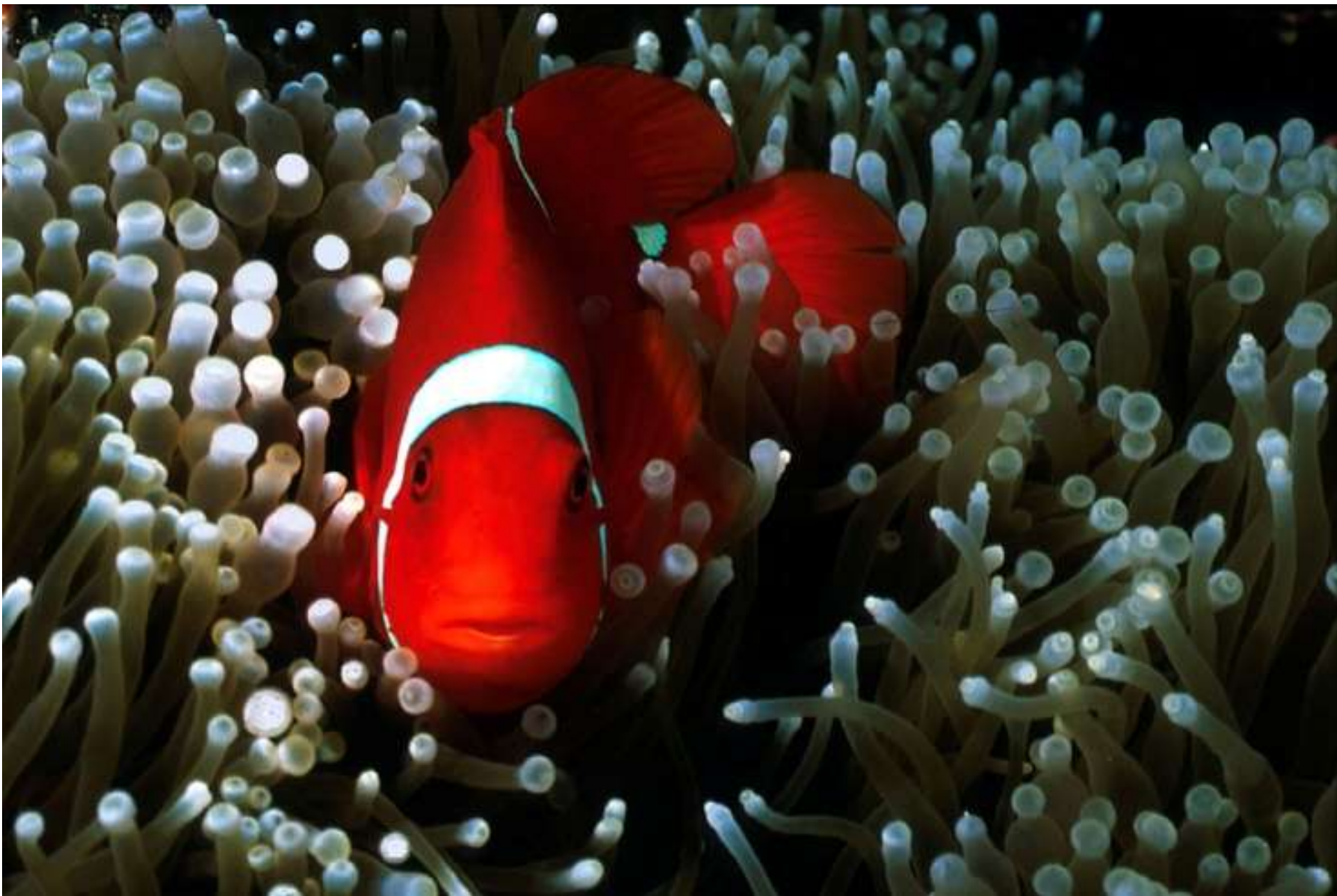


***First, some of the creations.***

***Then, the creator.***





















# **Sue Barnes**

**1929 - 2008**

***Diagnosed with ovarian cancer in 2000.  
In 2004, she traveled to Little Cayman,  
Thailand, Solomon Islands, Bahamas  
and Indonesia to capture more breathtaking  
underwater images.  
Some people think she is crazy  
-- she says she is called.***

***“Retirement”***

## **Career**

***Working With Clay***

***Underwater  
Photography***





# ***Don Garren***

## ***Retirement***

### ***Career Engineer***



### ***Creator Builder***





| **Focus On** Homes

# One Man's Project





# Retired mechanical engineer builds his house — his way

By Janice Gaston  
JOURNAL REPORTER

**L**AMBSBURG, Va. — Don Garren likes a challenge. He likes to tinker with old phonographs and make jewelry in his big workshop. He built that workshop. He built that workshop. He also built the rest of the 7,750-square-foot house that he shares with his wife, Nancy.

He planed the hemlock boards that cover the outside and attached each of them with 16 stainless-steel screws. The only nails in the house were used to tack up the wood molding.

Garren pulled the stone for two massive fireplaces out of nearby Stewart's Creek. He installed dozens of windows, including the 32 south-facing windows that let sunlight pour into the house in the winter. He built the house's steel frame with steel decking and floor joists. He welded, ran wiring and installed plumbing.

All by himself.

Garren, 76, a retired mechanical



JOURNAL PHOTOS BY JENNIFER ROTENIZER

Don and Nancy Garren show off the living room of their home in Lambsburg, Va.

studied it and planned it. Then he built the rustic, contemporary house in 2½ years. They moved in about 10 years ago. He approached the project like a full-time job, his wife said. The couple were living in Midway, a round-trip of 125 miles from

day, rain or shine," Nancy Garren said. He would leave home about 7 a.m. and knock off about 5 p.m.

He hired help only to pour concrete and install and finish dry wall.

Nancy Garren looked askance at her husband's project when he

all," Garren said, "until it started taking shape."

The notion of the house was born when Garren was looking for some land to buy. He ran across a property with most of the foundation for a house al-



# ***Creations in Retirement***





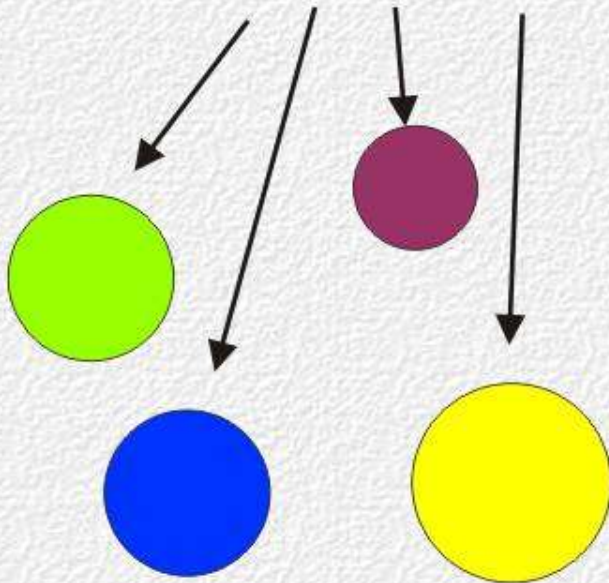
# ***Collective Creations in Retirement***



***Clemson University  
Class of 1956 Academic Success Center***

# ***Making A Model***

***Observe***



***Identify  
Common Characteristics***





# ***Creations in Retirement***

**Career**

**Experience**

***Art***

***Literature***

***Programs      Buildings***

***Preservation of  
History and Heritage***

***Resources for Others***

***Learning Opportunities  
For Others***

# ***Creations***

## ***Career Driven***



## ***Self Expression***





# ***Retirement***

***Career***

***Experience***

***Time***  
***Resources***  
***New Goals***



***Formal Education***

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