

# Teaching Space Awareness Using a Visual Thinking Strategy (VTS)

Stephen M. Pompea

National Optical Astronomy Observatory  
and

Nancy L. Regens

University of Arizona (retired)



# Our Journey to VTS



# What are Visual Thinking Strategies?

- VTS was developed for art education at the New York Museum of Modern Art. We are applying it to science education, where it is equally powerful.
- It is a simple, and powerful approach for a learner-centered program.
- It emphasizes critical and creative thinking skills.

# How VTS Works: 3 Questions



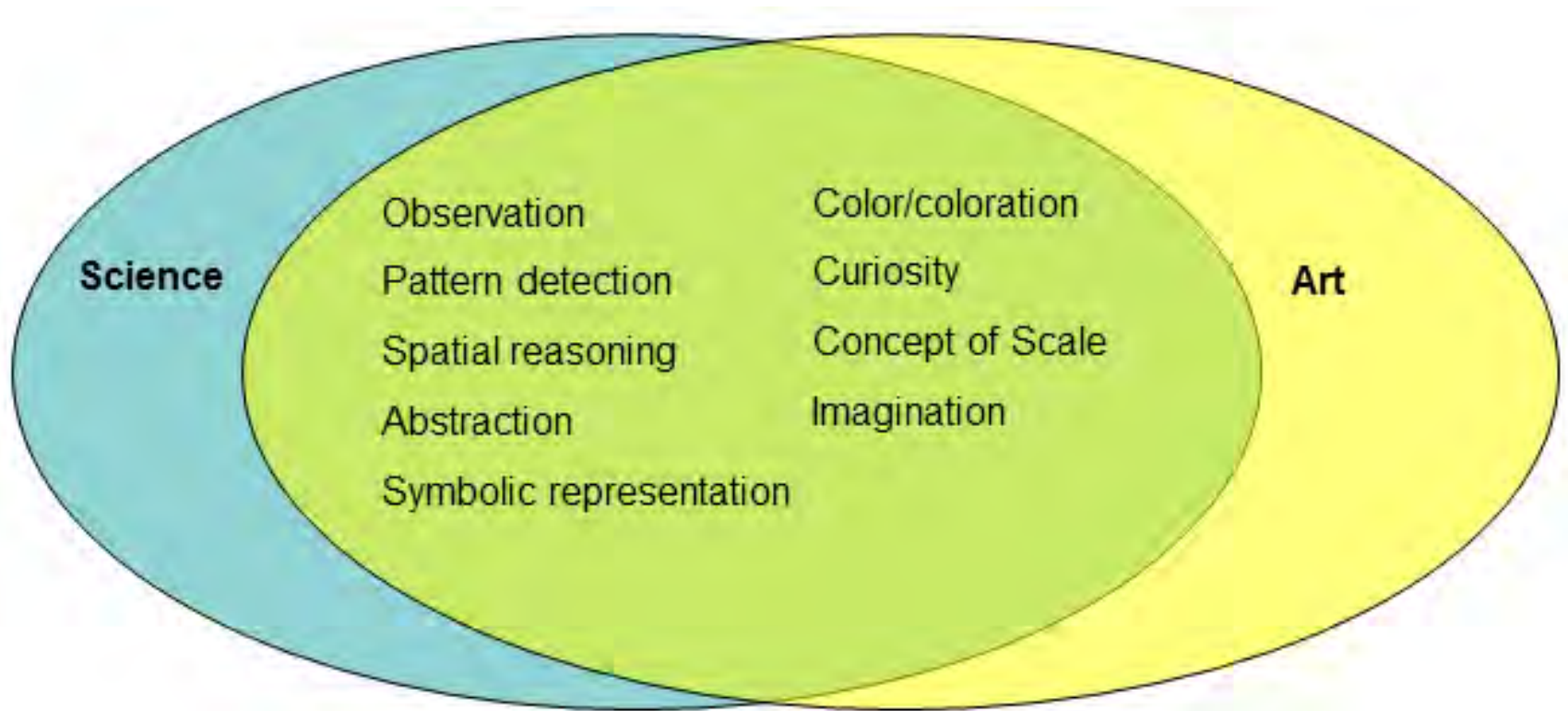
- What's going on in this picture?
- What do you see that makes you say that?
- What more can we find?
- Let's try one!



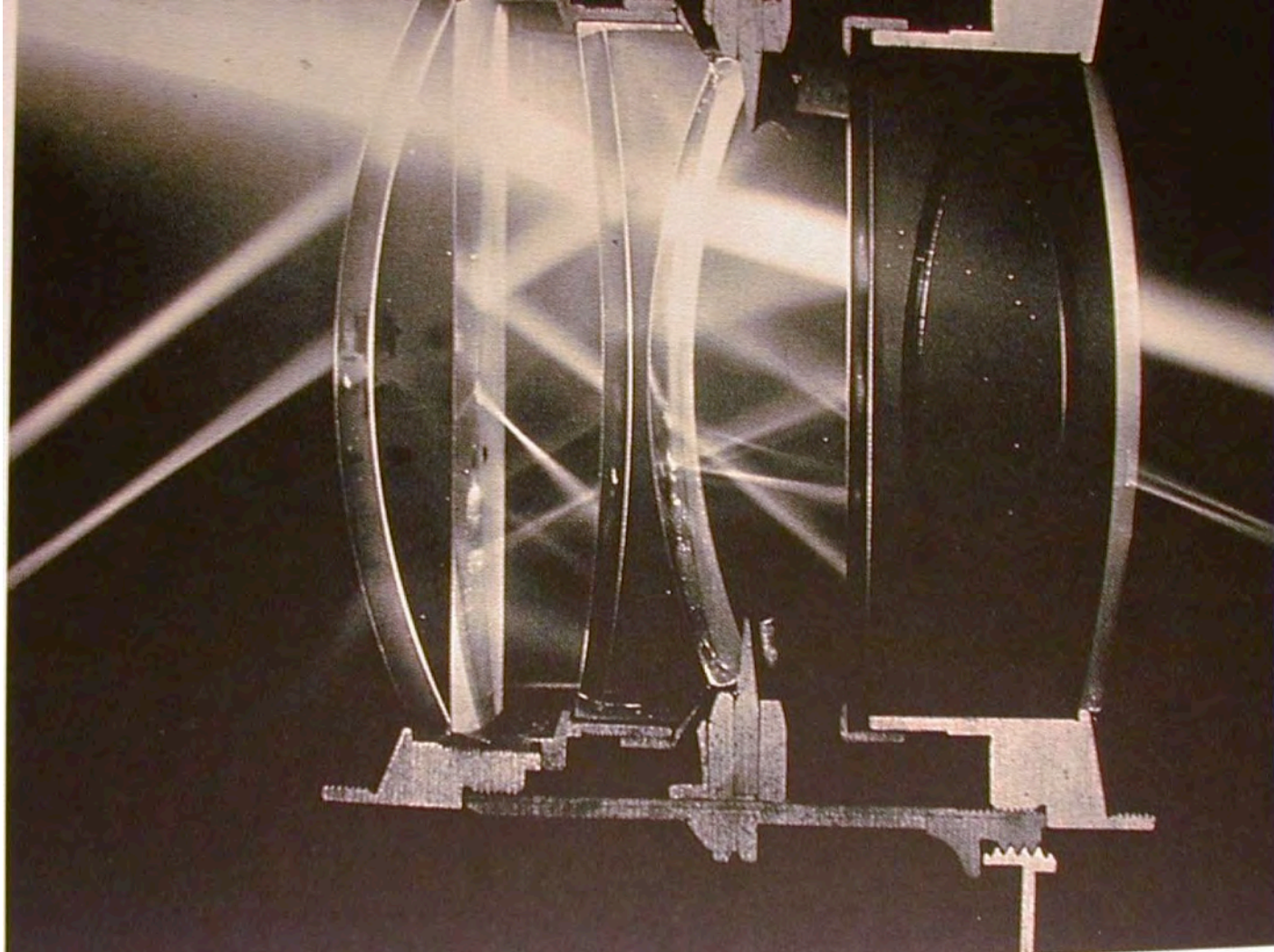
What is going on in this picture?



# A Few of the Overlaps



# Wealth of Science in an Image



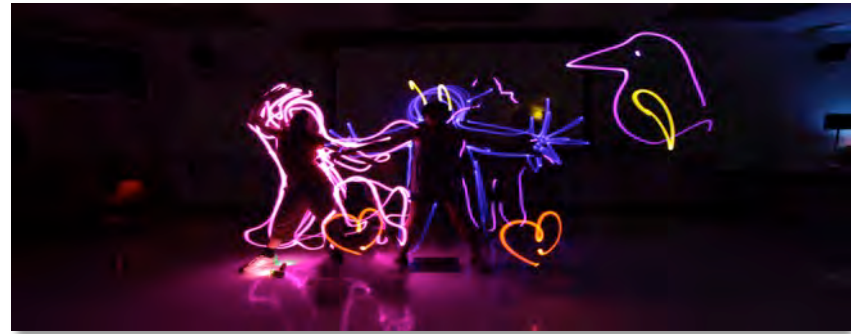
# COLORS OF NATURE



Side note on another STEAM Project at NOAO  
“Project STEAM: Integrating Art with Science to Build Science  
Identities among Girls” Web site: [Colorsofnature.org](http://Colorsofnature.org)



# The Project Uses STEAM Design Challenges



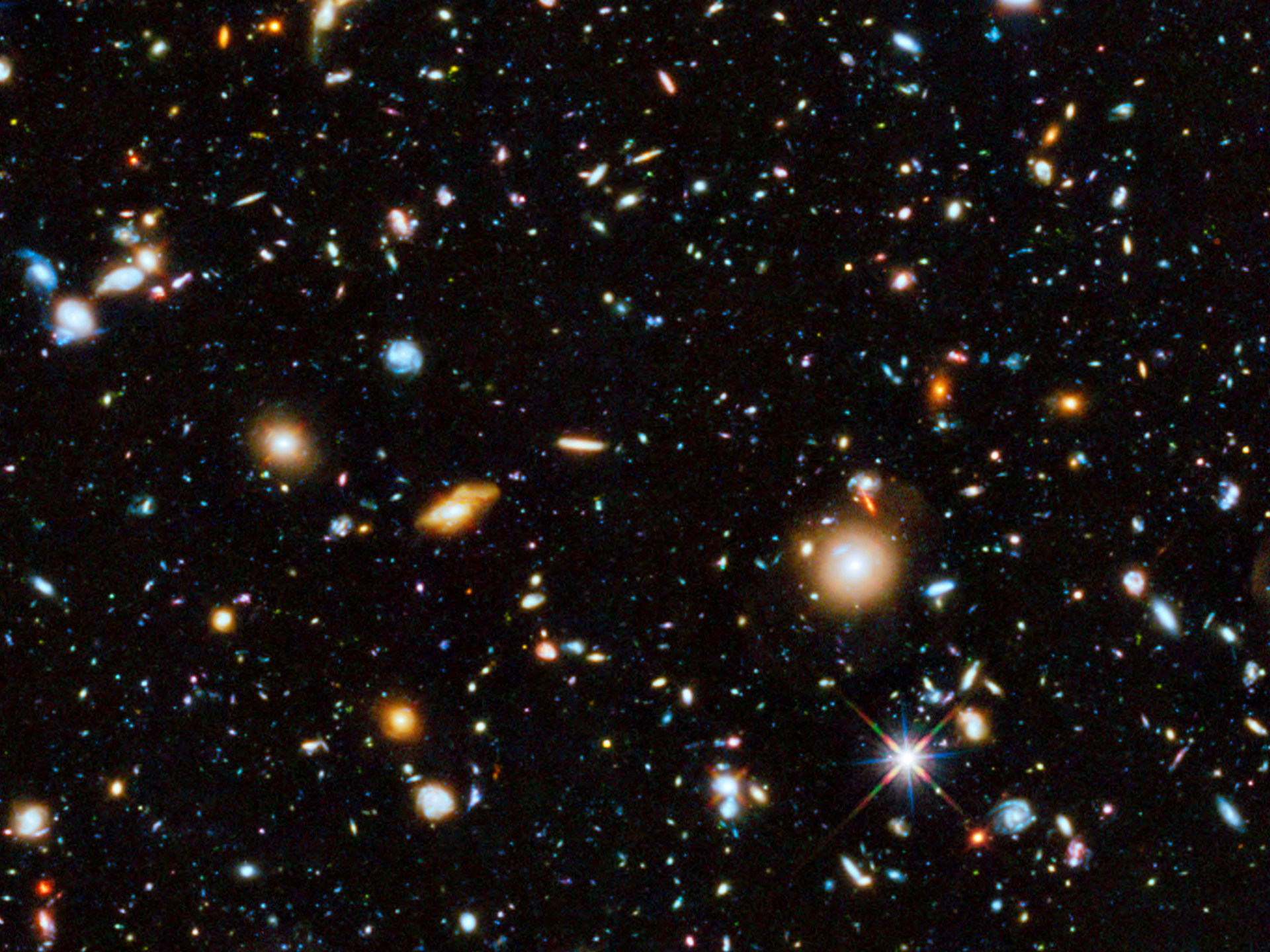
- Making computer animation on the functions of color
- Painting with light
- Creating with colored shadows
- Creating polarization-based art
- Costume design challenge

COLORS OF NATURE

# Back to Visual Thinking Strategies

- Here are some sample images to practice on
- Could use images from NASA Astronomy Picture of the Day website
- Use Best of Hubble Space Telescope images
- Use astronomy posters
- Be sure not to display information about the image such as title or object-this is part of the fun and mystery
- Goal is to see deeply and ask new questions



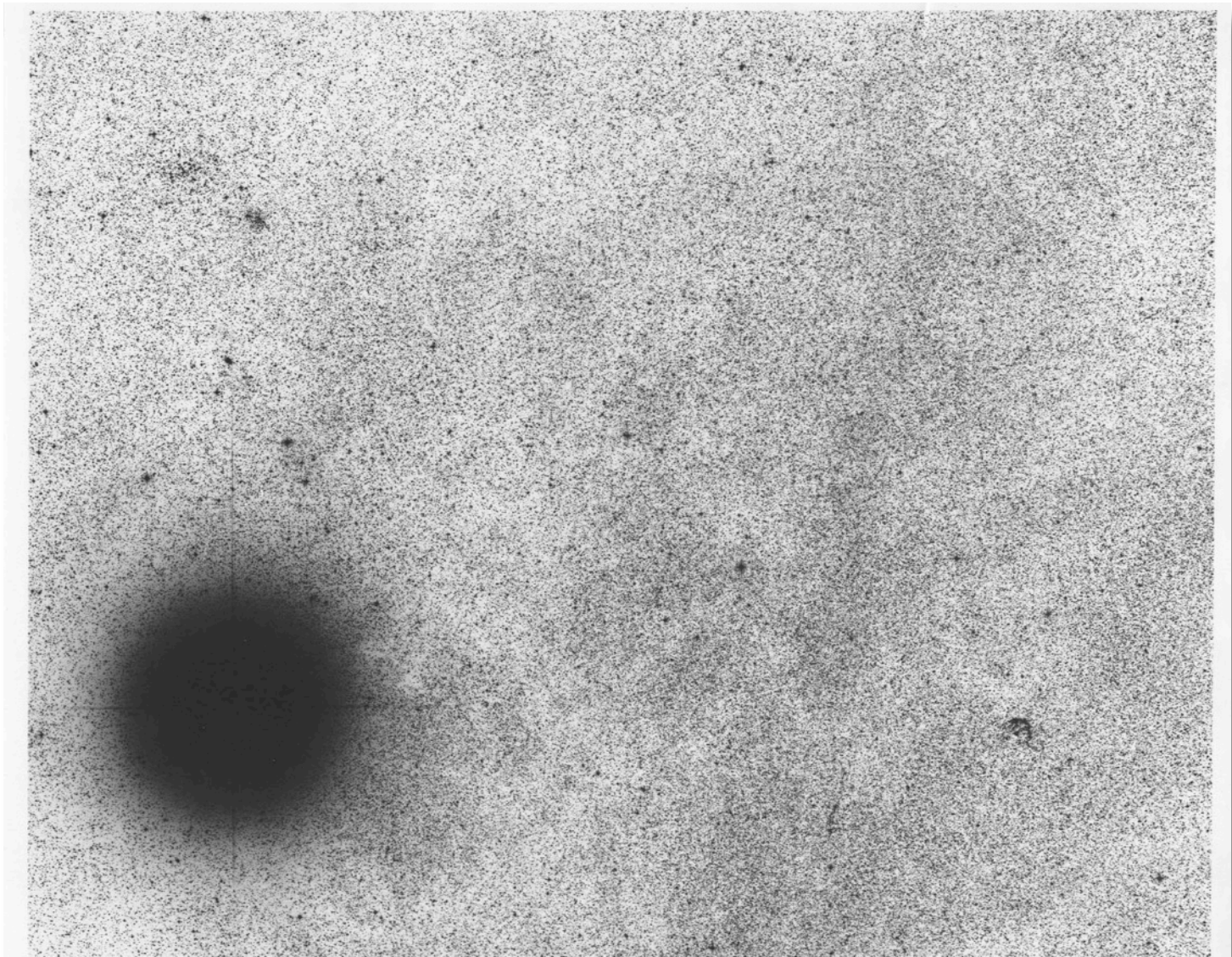












# Review: How VTS Works: 3 Questions

---

- What's going on in this picture?  
(observation)
- What do you see that makes you say that?  
(supporting evidence)
- What more can we find?  
(deeper observations, extending and testing observations)



Contact Information: at University of Leiden until  
May, 2017

---

Stephen M. Pompea  
National Optical Astronomy Observatory

[spompea@noao.edu](mailto:spompea@noao.edu)

and

Nancy L. Regens  
University of Arizona (retired)

[nregens@email.arizona.edu](mailto:nregens@email.arizona.edu)