A landscape photograph of a young pine plantation. The foreground is a green field with small white stakes marking the rows of trees. The middle ground is filled with a dense stand of tall, thin, young pine trees. The background shows a line of darker, more mature trees under a bright blue sky with scattered white clouds.

# SARAS 2013

## BRINGING ART AND SCIENCE TOGETHER FOR CREATIVE SOLUTIONS

FRANCES WESTLEY, WATERLOO INSTITUTE  
FOR SOCIAL INNOVATION AND RESILIENCE

# Why ARTISTS AND SCIENTISTS IN COLLABORATION

- The need to bring multiple “ways of knowing” to bear on complex situations
- The need for science to learn from the arts about how to train science students in how to deal with risk and uncertainty.

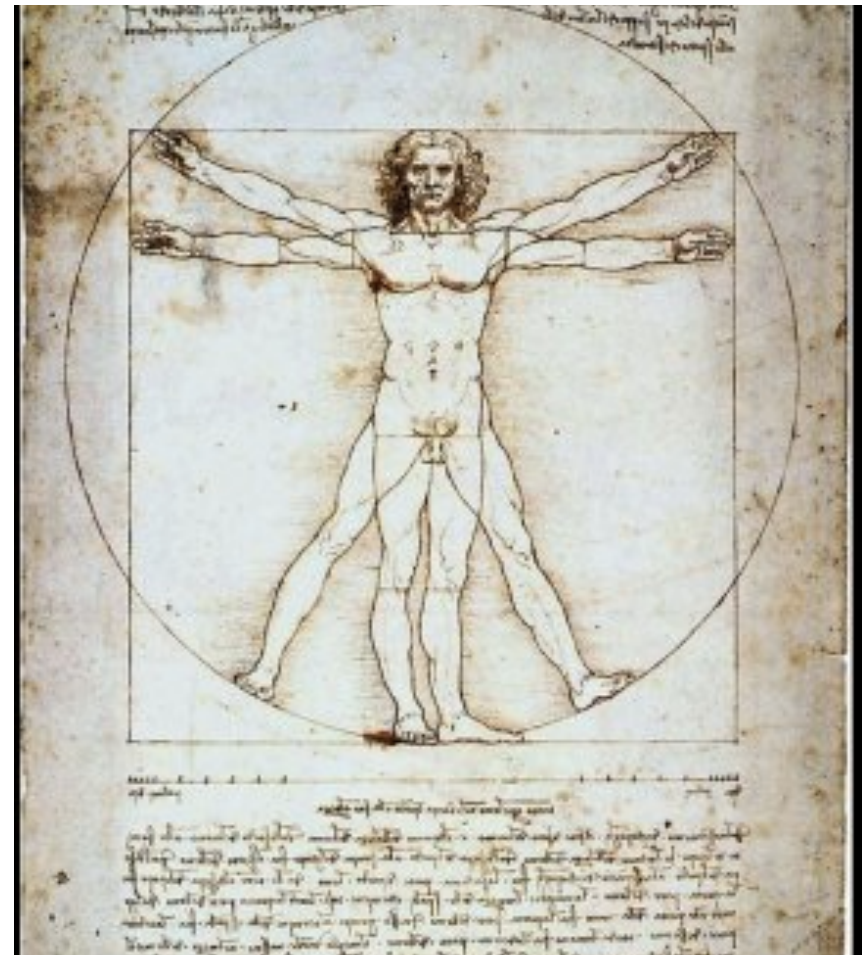


# The workshop

- An urgent experiment in integrating art and science for a better understanding of transformation and resilience.
- 7 artists and 13 scientists and social scientists met for three days to discover common ground for research and project creation.

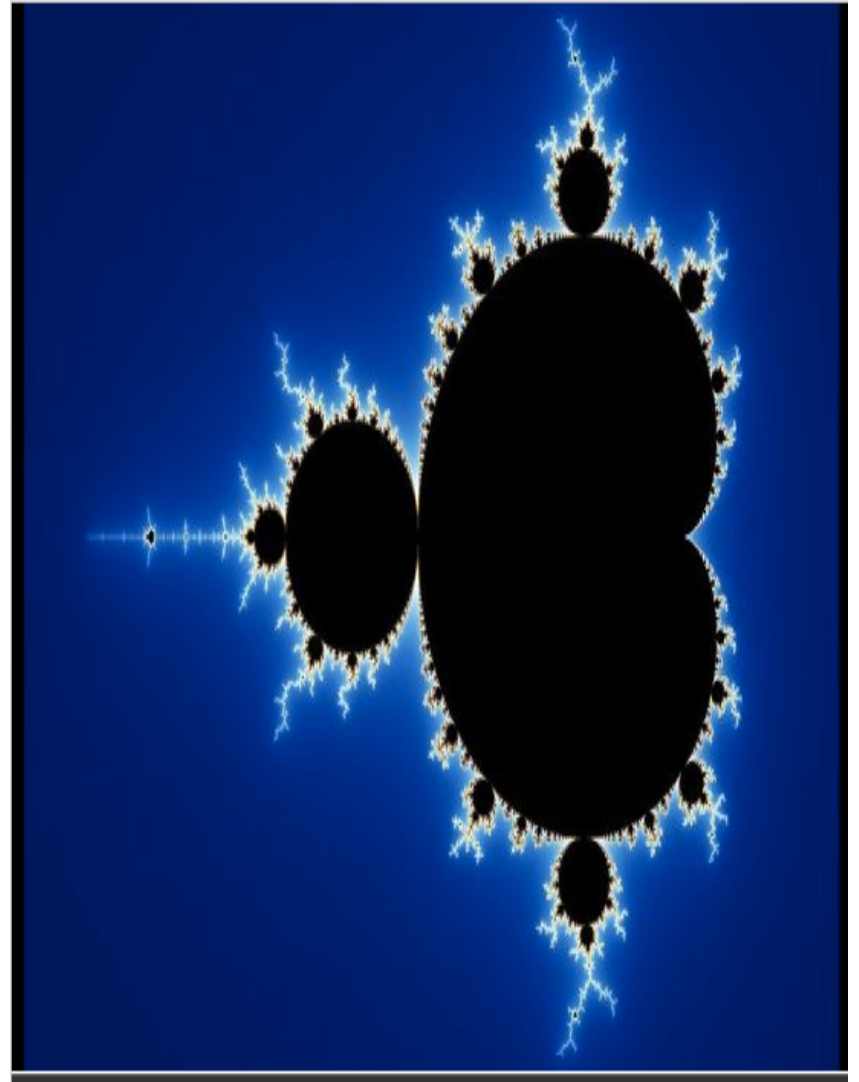
# Six intersections of art and science

- *Education for Risk and Uncertainty*
- *Structuring for creativity*
- *Thinking fast and slow*
- *Iconic Imagery*
- *Magic and Science*
- *Scenarios and Paracosms*



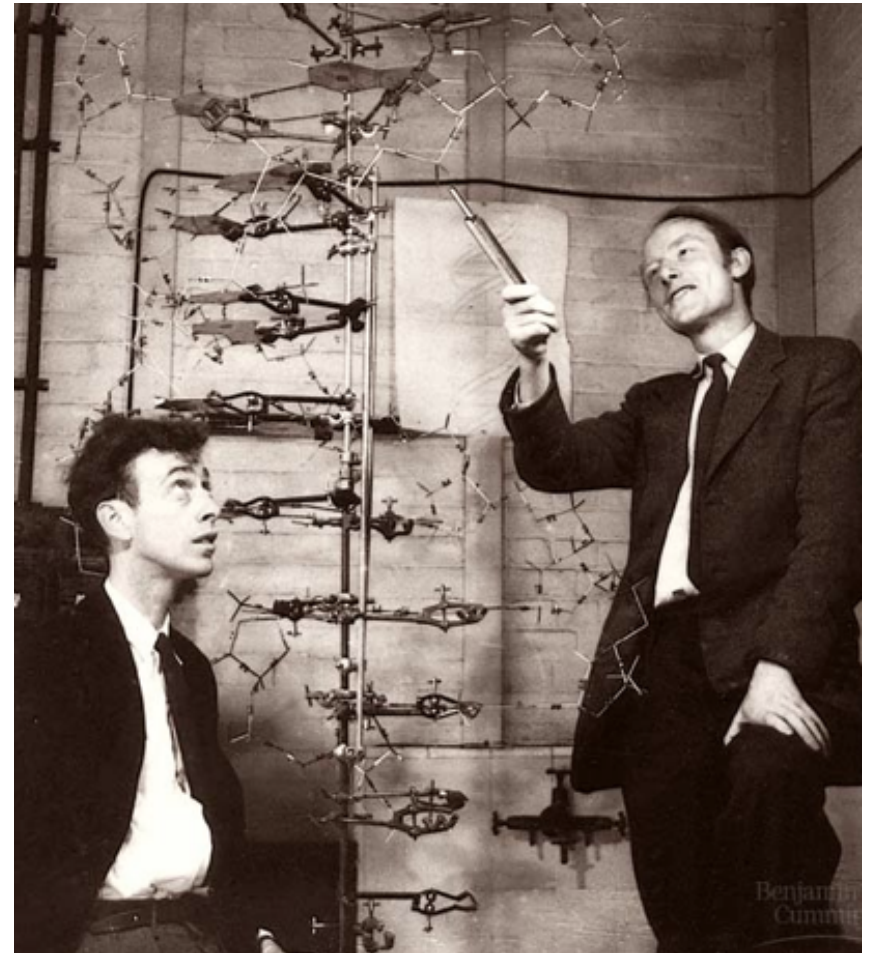
# Iconic imagery

- *What role do iconic images play in critical transitions in society?*
- *Can we locate or can we create images that have the power to transform the way we think about the biosphere and our role in it?*



# Rethinking Risk

- How can we draw on the knowledge of the arts, about educating for risk and uncertainty, to better train our scientists to deal with the current complexities of sustaining the biosphere?



# Rethinking our Universities

- How can we innovate in our universities so that we privilege the interdisciplinary and transdisciplinary education we need?
- How can we overcome the barriers which are embedded in our disciplinary approaches to research and teaching?



# How can artists and scientists each contribute to illuminating the nature of the creative process?

- How can we better understand the deep sources of creativity, as well as the nature of creative journeys?





# “Pure Magic” – what magic reveals about the way our brain works



- The art form of magic reveals that the brain has limitations of perception. Our brains can be “hacked”.
- What does this knowledge tell us about the value and challenges of interdisciplinary creativity? The nature of reality we are able to grasp? The role of illusion?

# Scenarios and Paracosms



- The human mind has the capacity to imagine new worlds and possibilities. How can we create a new generation of scenario planning exercises that capture the emotion, the complexity, the diversity we need to manage future uncertainty?

# Looking Forward



- Instituting new project based collaborations between artists and scientists- SARAS 2014
- Studying the dynamics of success and failure – how breakthroughs occur.
- Translating this knowledge to practical advice about how to train a new generation of scientists and artists to find creative solutions to the challenges of sustaining a resilient Uruguay in a resilient planet.