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VEGAS 2012



SKEPTICISM AND
THE FUTURE

Easy Ways to Demonstrate How Much We Fool Ourselves

Barbara Drescher

The Amazing Meeting 2012

Workshop: Skepticism in the Classroom

The logo consists of the letters 'TAM!' in a bold, white, sans-serif font, centered within an orange square with a slight gradient and a drop shadow.

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“The value of science is not simply what the next model of iPod you will buy [will be]... its real value comes about when it is time to distinguish reality from everything else.

To be scientifically literate is to be trained in what it is to recognize your own frailty as a data-taking, data-interpreting device.”

--- Neil deGrasse Tyson

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Demonstrations

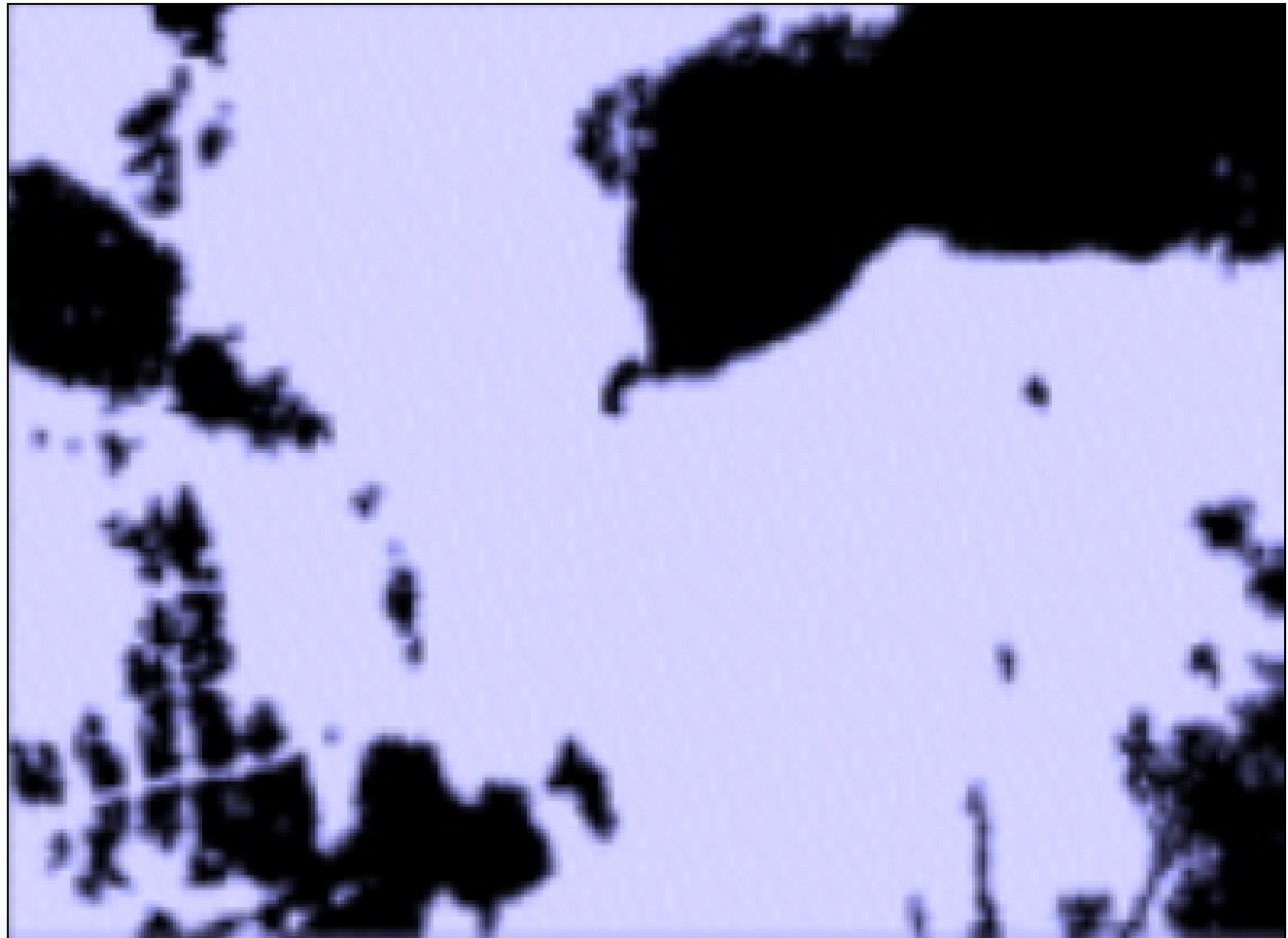
- Schema-Dependency
- Color Vision and Visual Acuity
- Illusions

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Do you see the cow?



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Expectations → Top-Down Processes

- Let's see who can process the most information from a line drawing in less than 2 seconds.
- All of the men, please close your eyes.

NO PEEKING!!

The logo for TAM! is displayed in white, bold, sans-serif font inside an orange square.

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Women...

- You get an edge.
- Let's make fun of the men. I'm going to let you cheat, but first let them think that they are missing something.

Laugh a little... now.

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Expectations → Top-Down Processes

- Now, I want to talk to the men.
- Women, please close your eyes.

NO PEEKING!!

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Men...

- You can show how easy this is by cheating. You'll do a lot better if you know what's coming.
- The scene you will see next is about:

ANIMAL TRAINING

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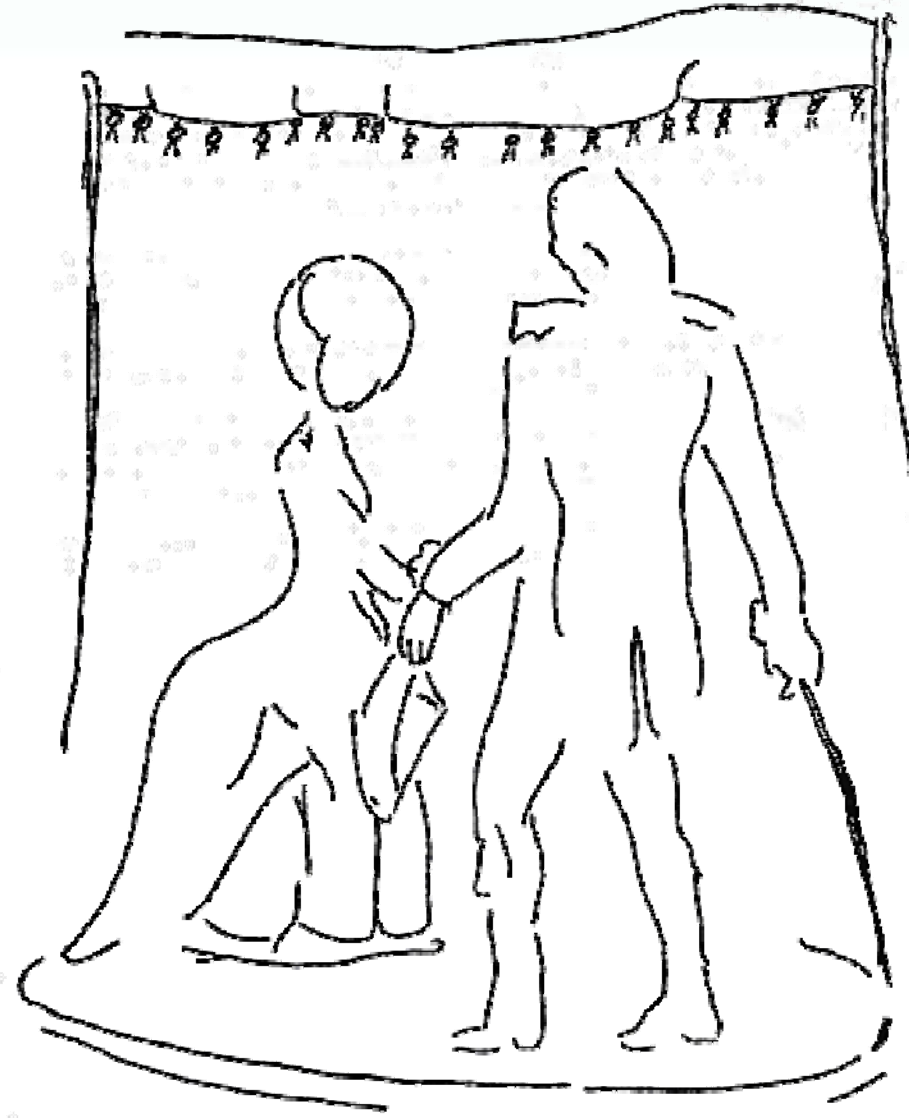


Ready?

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ΕΛΛΑΔΑ





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Expectations

In the picture, was there:

- 1) A car?
- 2) A man?
- 3) A woman?
- 4) A child?
- 5) An animal?
- 6) A whip?
- 7) A sword?
- 8) A man's hat?
- 9) A ball?
- 10) A fish?

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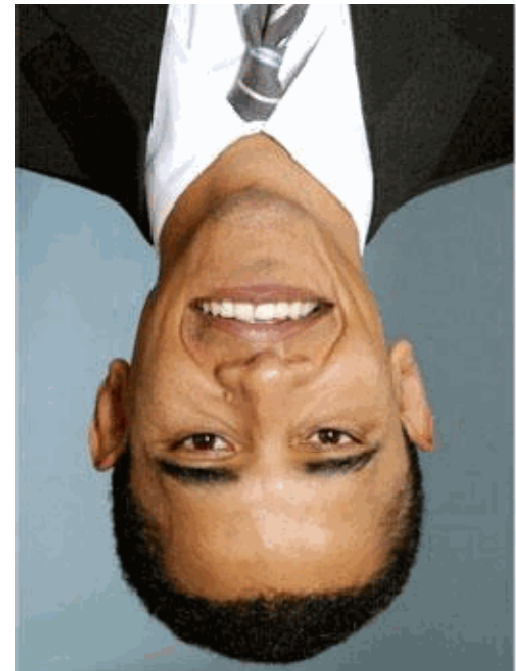
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Perceptual Schemas

- Can you recognize a familiar face when it is upside down?





Color Vision and Acuity

- Peripheral vision is very poor, especially color vision.
- Our brains fill in the blanks.

Demonstraton:

- Ask a volunteer to stand and stare at a fixed position straight ahead. Stand directly to one side 4 – 5 feet away.
- Choose from among 3-4 colored items shown to the volunteer beforehand. Hold it up so that it is visible to the volunteer, but instruct them to remain fixed forward.
- Ask the volunteer to state when they know the color of the item.
- Move in an arc toward straight in front of the volunteer, holding the item so that the volunteer can see it.
- Usually, the volunteer is able to identify the color when the item is approximately 30° to 45° from the participant's line of sight forward.

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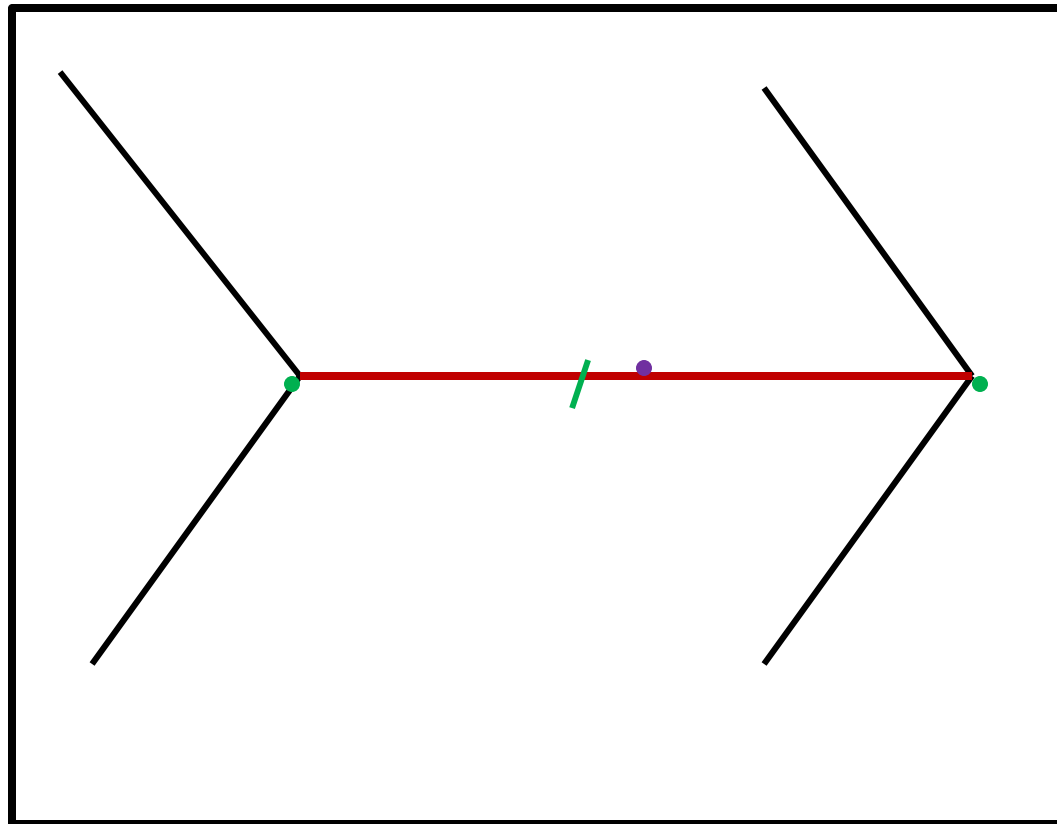
The 1 min. Muller-Lyer Demo

- Ask students to take out a clean sheet of paper.
- Ask students to quickly draw an arrow similar to the one on the next slide, in the proportions shown.

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The 1 min. Muller-Lyer Demo





The 1 min. Muller-Lyer Demo

- Next, instruct students to quickly mark the center of the line shown in red.

Remind them not to squint or try to measure the line in any way. It's only fun if they try to forget that they will probably get it wrong.

- Once they have marked the center, have the students fold the paper so that the ends of that line meet, then crease it. This is the *actual* center.

Almost all will have marked a significant distance from center and way from the point of the arrow.

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Size Constancy/Relative Size



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Phantom Dots

- Using PowerPoint, Photoshop, or paper, create squares, then place them close together on a white background (other colors work well, but a white background works best).
- Make sure the squares are lined up precisely, with equal distance vertically and horizontally.
- Step back and stare.

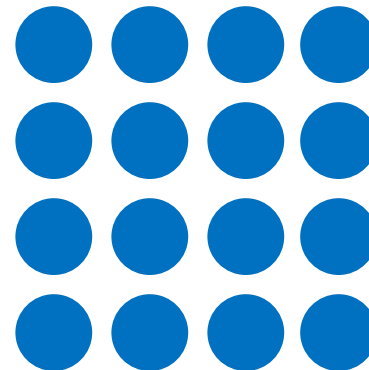
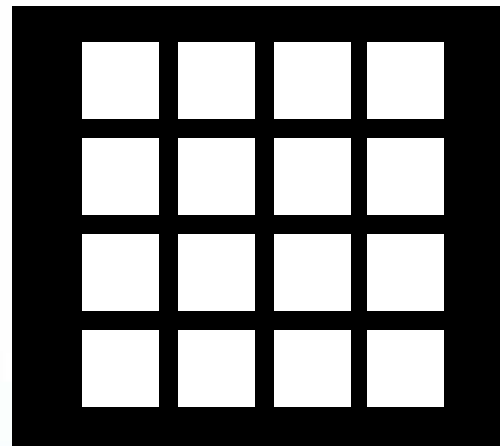
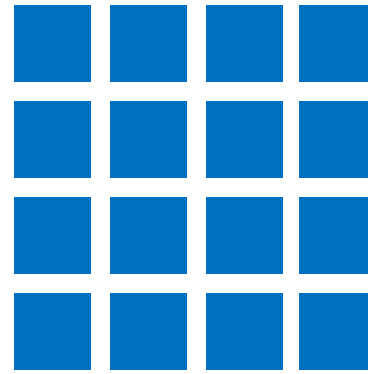
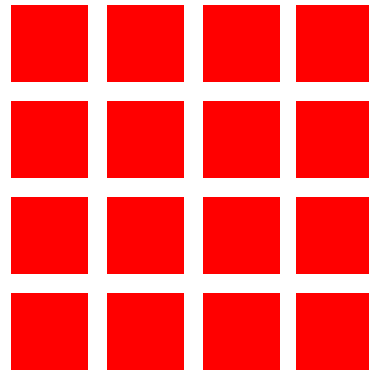
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Phantom Dots



DOES
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WORK



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Where

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<http://icbseverywhere.com/blog/resources/tam2012-education-workshop/>