How Can We Experience Data?

Astronomical Data – Perhaps you’ve seen those spectacular images from the Hubble Space Telescope: pillars of greenish gas and dust giving birth to new stars and planets, incredibly detailed spiral arms in galaxies millions of light-years away. But you can’t look through a telescope and see these amazing wonders of nature. Light from these distant objects is converted into numerical data, and computers use that data to generate the images we see. In reality, we are all “blind” to this data. We simply choose to convert these numbers into visual images. But there are other ways, beyond our eyes, to analyze these data.

Exploring Astronomical Data Through Touch – Thanks to 3-D printers and other tools and techniques, today, blind planetarium shows explore the night sky with their fingers (below-right, Image Credit: IYA Valencia). In addition, images taken with a telescope can be explored by your fingertips (below-left: Image Credit: Tactile Universe).

Mapping Data to Sound: One Idea

Horizontal position = Pitch
Vertical position = Time in scan from bottom to top

We’ve also discussed exploring data arrays through taste and smell...

Exploring a Data Array (image) Through Tactile

Tactile Reese. (below-right, Image Credit: IDATA). The data array is made of jelly beans. By eating the jelly beans, could you experience patterns in the data?

Comparing Horizontally: Brightness
Comparing Vertically: Volume

Choosing a Data Array (image) Through Smell

—“Weird and wonderful” scented candles. Could a person use their nose to smell their way through the data array?