DATA VISUALIZATION —

ART + TRUTH = INSIGHT
ART + TRUTH = INSIGHT
what is art?
ART + TRUTH = INSIGHT

what is art?
- ...but, is it good art?

Los Angeles Times
Cosmological N-body simulation of the formation and evolution of large scale structures in the Universe | 2015 –
SCIENCE

ART + TRUTH = INSIGHT

what is art?
ART + TRUTH = INSIGHT

ART PRACTICE
intentional
human centric

ART PRACTICE
human centric

ART PRACTICE
ART PRACTICE

intentional  human centric  iterative
ART + TRUTH = INSIGHT
TRUTH
(VISUAL) DATA ENCODING CHANNELS
(VISUAL) DATA ENCODING CHANNELS

- **SPATIAL**
  position | scale | orientation

- **SHAPE**
  distinctive glyphs | bumps | points | whiskers

- **COLOR**
  luminosity | hue | saturation | texture

- **MOTION**
  vibration | rotation | deformation
(VISUAL) DATA ENCODING CHANNELS

- **SPATIAL**
  - position | scale | orientation

- **SHAPE**
  - distinctive glyphs | bumps | points | whiskers

- **COLOR**
  - luminosity | hue | saturation | texture

- **MOTION**
  - vibration | rotation | deformation
“WE KNOW NEXT TO NOTHING ABOUT HOW COLLECTIVE COGNITION WORKS, OR WHEN IT WORKS, OR HOW TO MAKE IT WORK BETTER; WE HAVE SOME IDEAS ABOUT IT, BUT AT BEST THEY’VE THE STATUS OF ARTISANAL RULES OF THUMB.”
ART + TRUTH = INSIGHT
VISUALIZATION PIPELINE
ART + TRUTH = INSIGHT

DATA VISUALIZATION
VISUALIZATION: FROM DATA TO DISCOVERY

ART CENTER
+ CALTECH
+ JPL

05.23.2013

NEW APPROACHES TO INTERACTIVE DATA ANALYSIS PROCESSING AND DESIGN

FERNANDA VÍBAS
MARTIN WATTELOFFER
JER THORP
GOLAN LEVIN
ERIC RECHINOW
ANJA-SILMA GOENS

POSTER COURTESY OF ARTCENTER/JPL/CALTECH DATA TO DISCOVERY PROGRAM | 2013 --
DATA2DISCOVERY

SCOTT DAVIDOFF JPL
MAGGIE HENDRIE ART CENTER
HILLARY MUSHKIN CALTECH
SANTIAGO LOMBEYDA CALTECH+ARTCENTER
DATA2DISCOVERY|RSKETCH
Tool to generate, cross-compare, and analyse 2D element maps and x-ray spectra resulting from PIXL Mars 2020 Rover instrument. DATA2DISCOVERY 2019

FIGURES COURTESY OF ARTCENTER/JPL/CALTECH DATA TO DISCOVERY PROGRAM. PIXLIZE
DATA2DISCOVERY|LIGO
ART + TRUTH = INSIGHT
DATA VISUALIZATION
GENE EXPRESSION
mouse DNA sequence, taken from embryonic mouse muscle tissue. each chromosome show as a continuous spiral | SIGGRAPH 2013 --
mouse DNA sequence, taken from embryonic mouse muscle tissue, each chromosome show as a continuous spiral | REALSPACE 2015 —
DIRECT DATA INSPECTION

CONTEXTUAL INQUIRY PROCESS

ITERATIVE DESIGN & VALIDATION

USE OF RESULTING EFFICIENT TOOL

ART PRACTICES + TRUTH = INSIGHT
thanks!

ART + TRUTH = INSIGHT
DATA VISUALIZATION –

ART + TRUTH = INSIGHT

santiago LOMBEYDA
santiago