Big Data Analytics Virtual Summer School

A Brief Introduction to Data Visualization

Human Interfaces

JPL

Keck
INSTITUTE FOR SPACE STUDIES

Caltech

Dr. Scott Davidoff, Human Interfaces Manager, NASA Jet Propulsion Lab

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Why does data visualization matter?

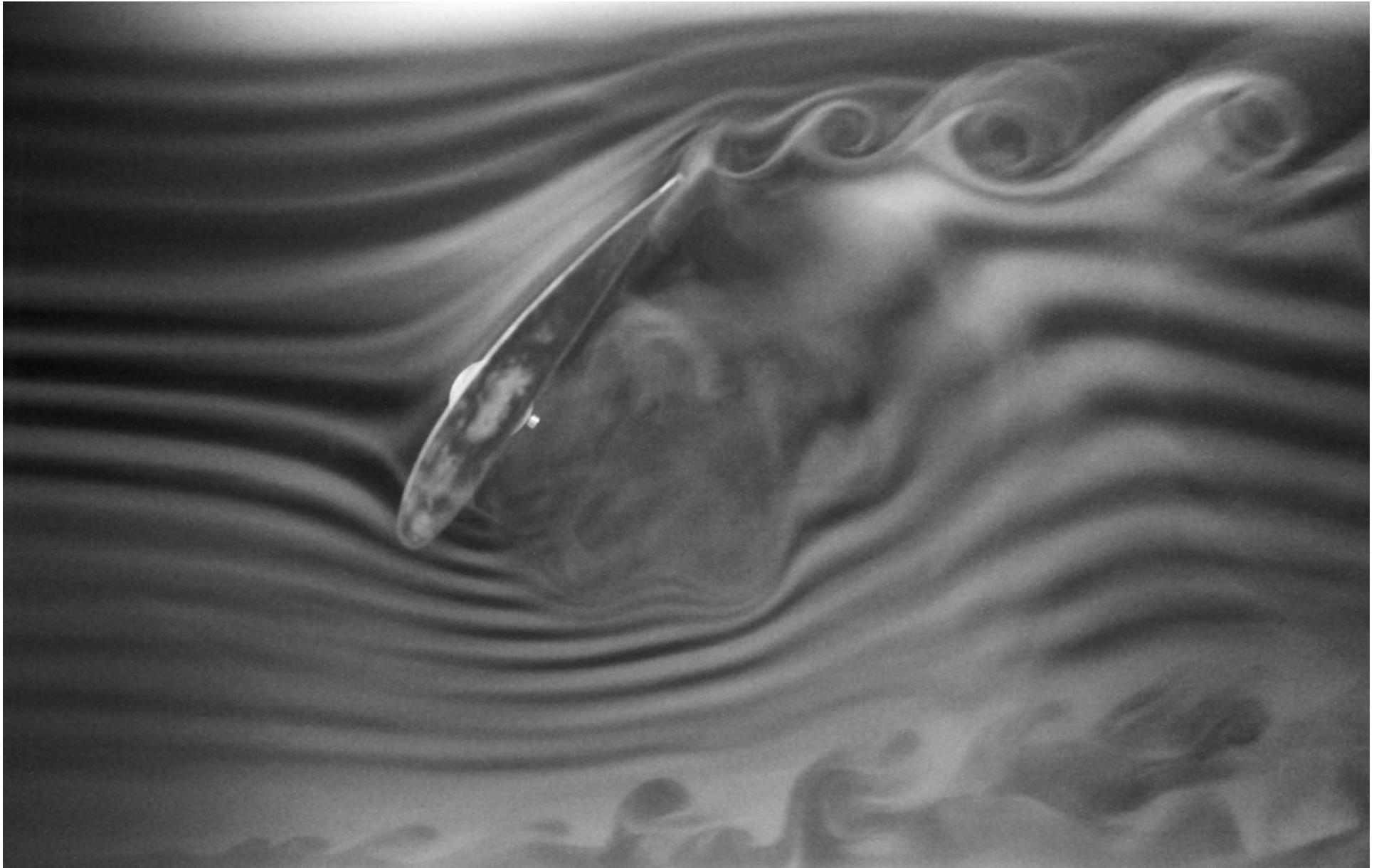Dr. Scott Davidoff, Human Interfaces Manager, NASA Jet Propulsion Lab

Our ability to capture data exceeds our ability to make meaning of it

What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention, and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.
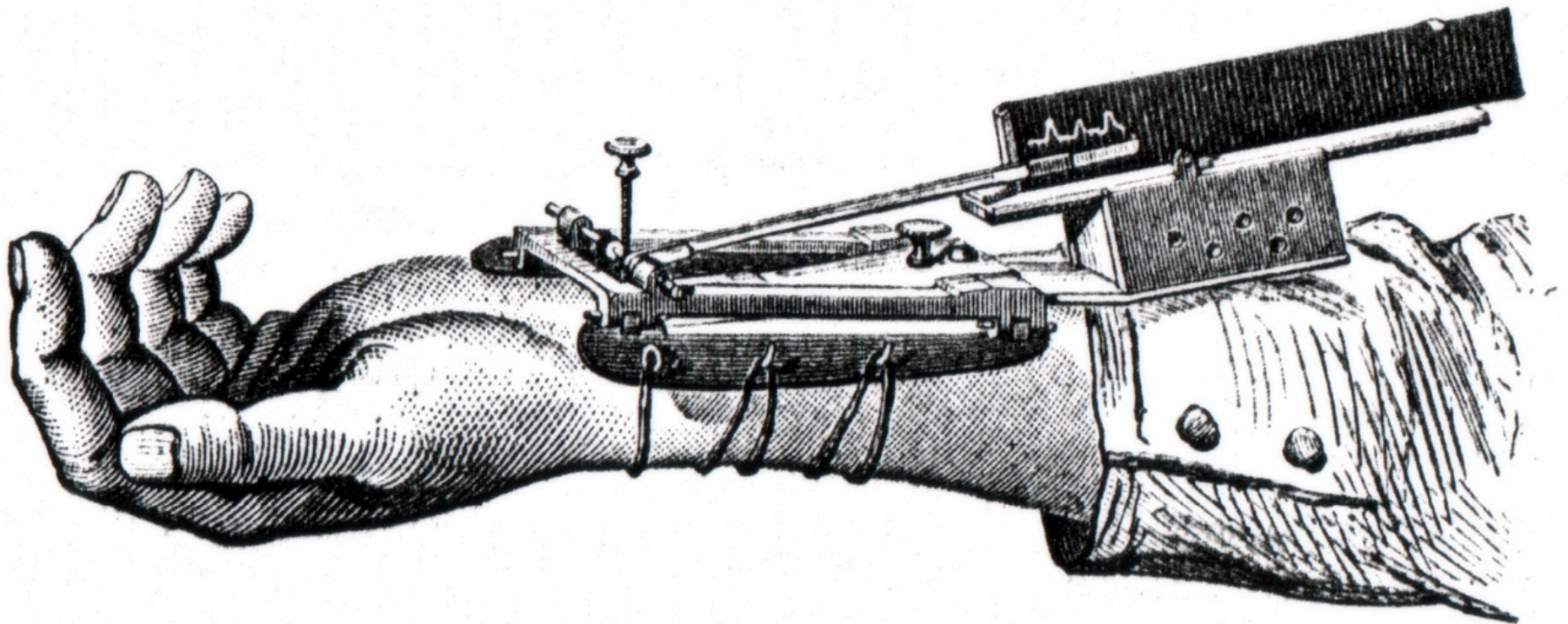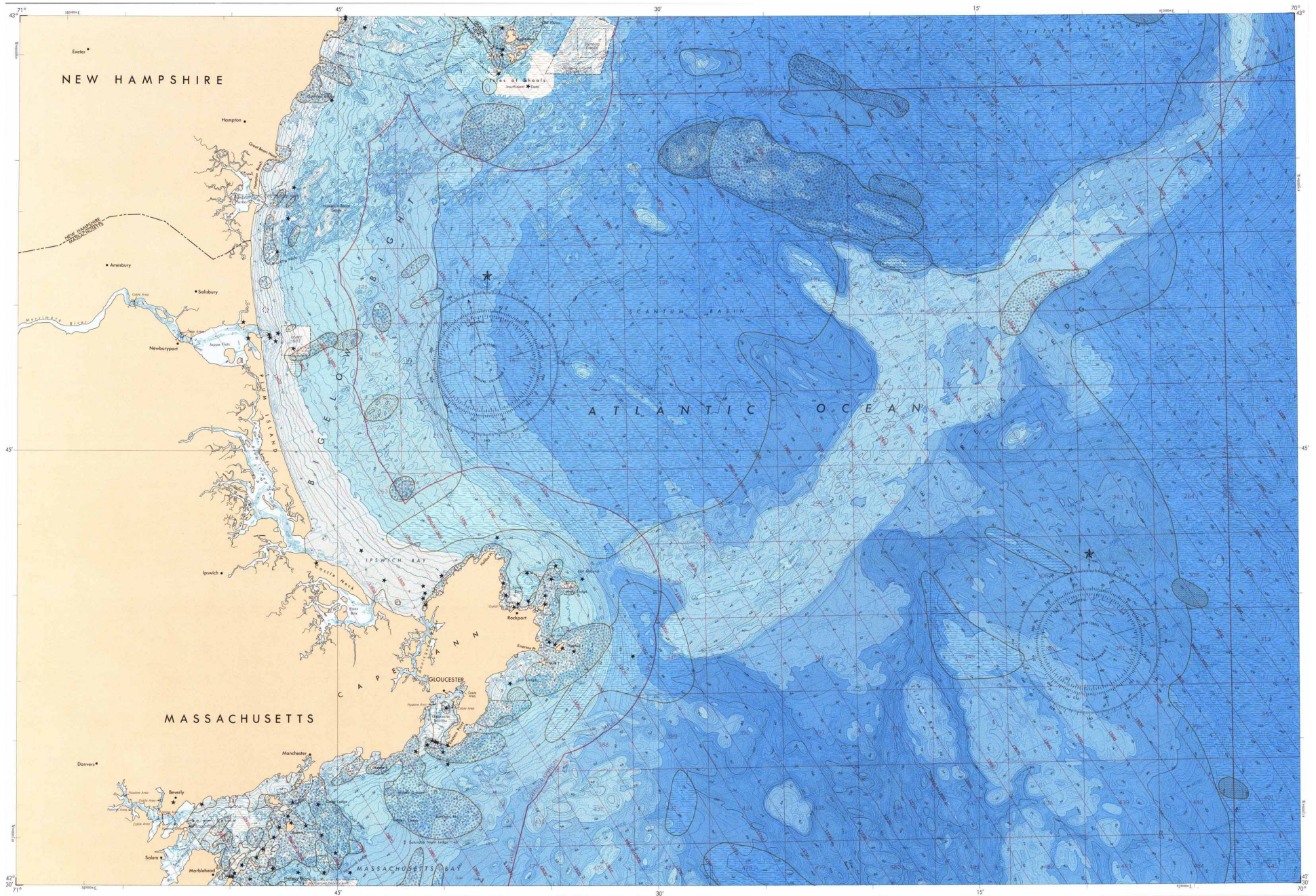
Herb Simon
Scientific American, 1995

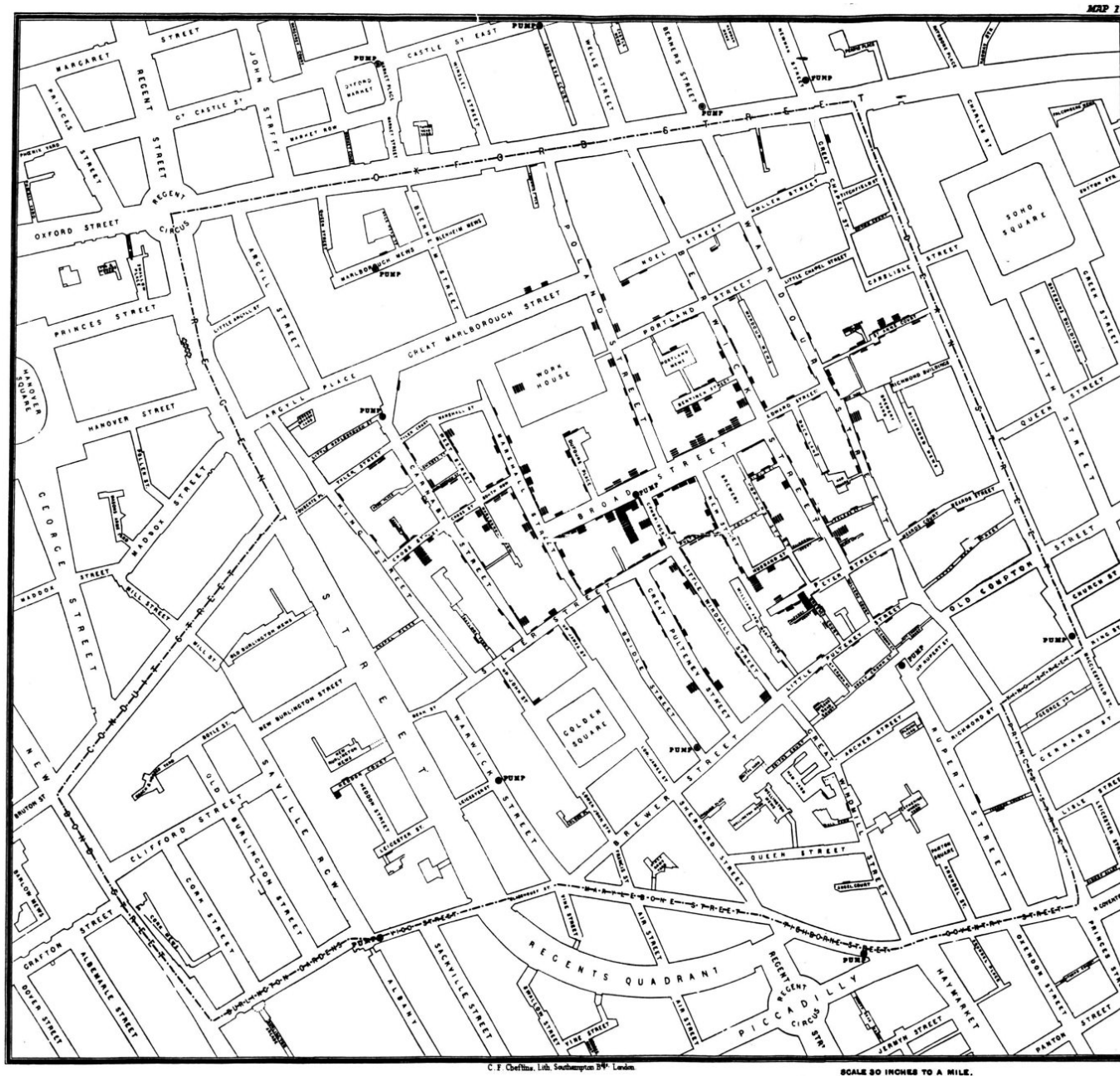Wind tunnel: give access to invisible patterns
Wikipedia

Sphygmograph: record and simplify events
Étienne-Jules Marey

Bathymetric map: reveal hidden dangers
NOAA

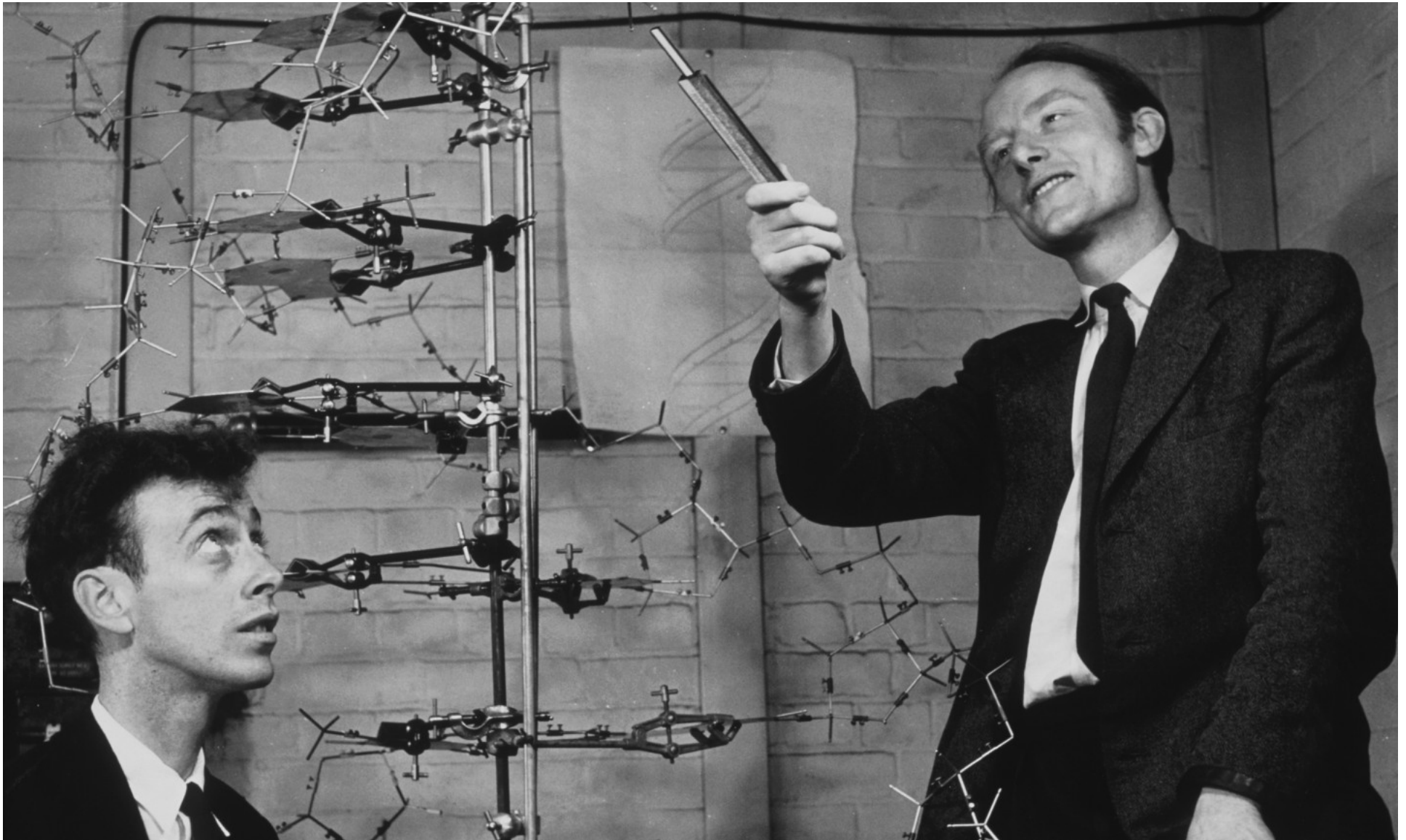Snow's London Cholera map: Answer questions about the world
Dataviz Blog

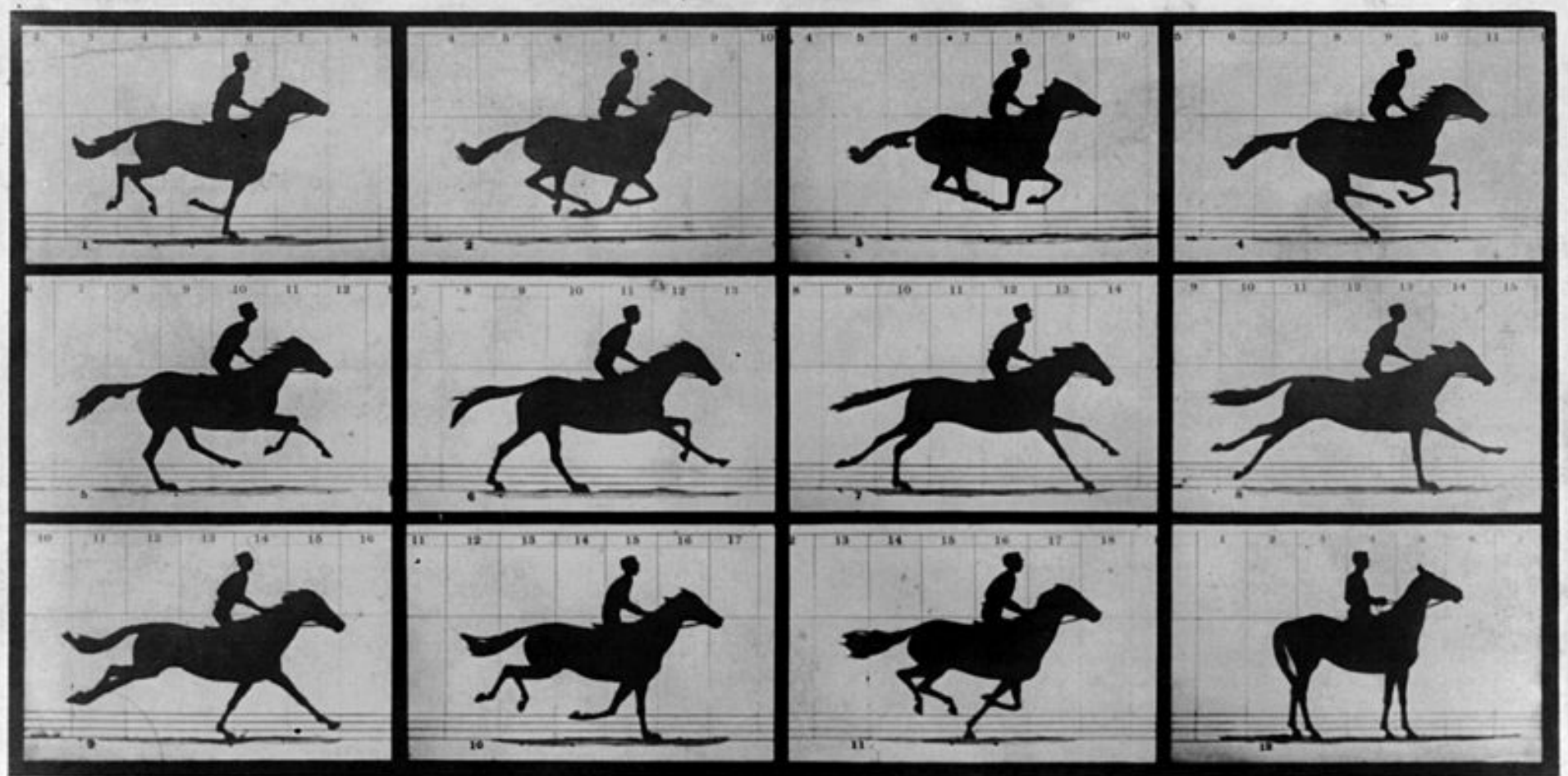Snow's London Cholera map: Answer questions about the world
Dataviz Blog

Watson & Crick explain DNA: Explain information to others
Dataviz Blog

Horse in motion, 1878: Document and explain phenomena
Eadweard Muybridge

Increasing the capability of a man to approach a complex problem situation, to gain comprehension to suit his particular needs, and to derive solutions to problems.

Douglas Engelbart
Augmenting Human Intellect:
A Conceptual Framework

Archimedes lever: Magnify human capabilities
Wikipedia

Data Visualization magnifies the capabilities of Science to understand our universe.