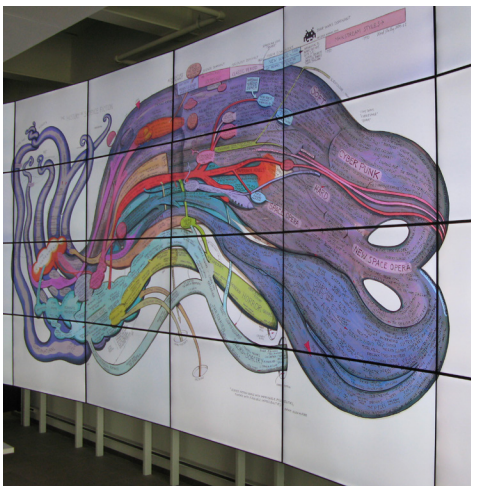

PLACES & SPACES
MAPPING SCIENCE

Official Exhibit Booklet

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Contact Information

Contacts:

If you are interested in hosting the exhibit or would like more information, please contact a member of our exhibit team.

Katy Börner

Victor H. Yngve Distinguished Professor of Information Science / Curator
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Phone: (812) 855-3256
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Lisel Record

Exhibit Curator
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Mailing Address:

Cyberinfrastructure for Network Science Center
School of Informatics Computing & Engineering, Indiana University
Luddy Hall
700 N Woodlawn Ave
Bloomington, IN 47401, USA

Website:

scimaps.org

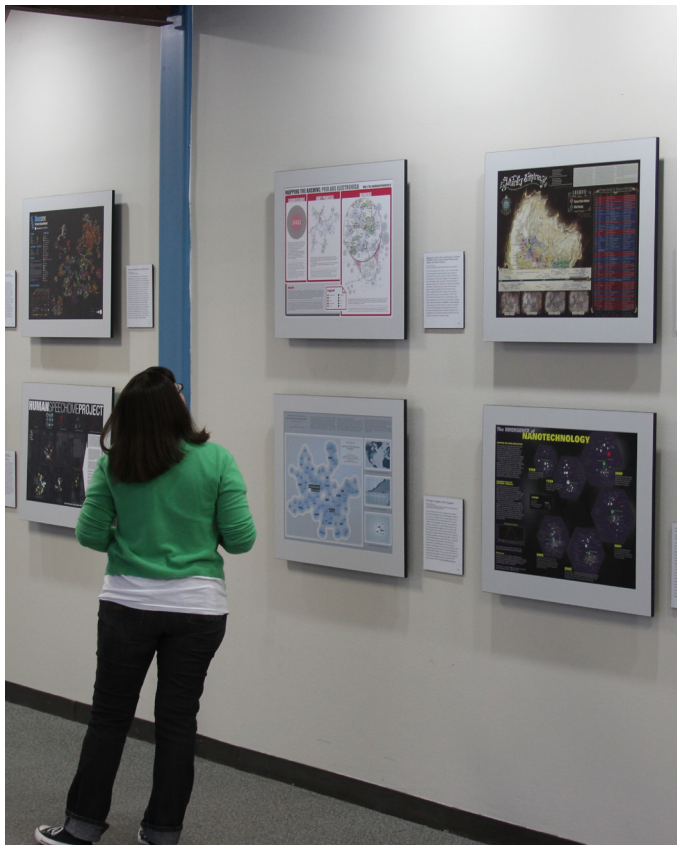
Exhibit Goals

For centuries, cartographic maps of earth and water have guided human exploration. They have marked the border between the known and the unknown, firing the imagination and fueling the desire for new knowledge and new experiences. Over time, geographic maps have become more accurate and more sophisticated, but the thirst for discovery, along with the need for maps to guide our travels, remains undiminished.

Today, our opportunities for discovery reside less in physical places than in abstract spaces. The sea of information is one such space, and it is ever growing, ever changing. Search engines can retrieve facts from this ocean of data, but they cannot answer larger questions about the seascape as a whole: How big is this ocean? How can we navigate to useful islands of knowledge? How is knowledge interlinked on a global scale? In which areas is it worth investing time, effort, and resources?

Drawing from across cultures and across scholarly disciplines, the *Places & Spaces: Mapping Science* exhibit demonstrates the power of maps to address these vital questions about the contours and content of human knowledge. Created by leading figures in the natural, physical, and social sciences, scientometrics, visual arts, social and science policymaking, and the humanities, the maps in *Places & Spaces* allow us to better grasp the abstract contexts, relationships, and dynamism of human systems and collective intelligence. Individually and as a whole, the maps of *Places & Spaces* allow data to tell stories which both the scientist and the layperson can understand and appreciate.

Iterations of the exhibit have traced the evolution of science maps, featuring the best examples of knowledge domain mapping, novel location-based cartographies, data visualizations, and science-inspired art works. Along the way, *Places & Spaces* has featured historically significant firsts in science mapping, including the first map of science, "The Structure of Science" (Boyack and Klavans 2005), the first "Wikipedia Map of Science" (Herr, Holloway, et al. 2009), and the first "Clickstream Map of Science" (Johan Bollen, et al. 2009). The exhibit has also brought to life the history and evolution of data visualization with Charles Joseph Minard's landmark "Napoleon's March to Moscow" (1869), Wattenberg and Viegas' "History Flow Visualization of the Wikipedia Entry on Abortion" (2006), the SENSEable City Lab's "Mobile Landscapes: Using Location Data from Cell Phones for Urban Analysis" (Williams, Ratti, et al. 2006), and the concept map "Death and Taxes" (Bachman 2009).



Visitors to the exhibit are surprised to see their own field of research from a new perspective. They are interested in learning more about the data and techniques that went into creating these maps, and their comments on the different metaphors that might be used to map the structure and evolution of science are invaluable for the design of more efficient visualizations.

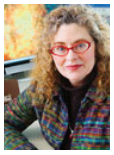
Advisory Board

The maps that make up the *Places & Spaces* exhibit are chosen annually in a process that begins with a call for maps that corresponds to a particular theme or addresses the concerns of a particular audience. Then, the team of international reviewers and exhibit advisors shown below work with the Indiana University exhibit team (comprised of two curators and paid staff) to select the most stunning and innovative maps from those submitted. The Indiana University exhibit team benefits greatly from the expert input it receives from this international advisory board.

Gary Berg-Cross
Co-Principal Investigator of the NSF-sponsored SOCoP-INTEROP Project

Bob Bishop
Chairman and founder of BBWORLD Consulting Services Sàrl and President of the ICES Foundation

Kevin W. Boyack
President of SciTech Strategies, Inc.



Donna J. Cox, MFA, Ph.D.
Director of the Advanced Visualization Laboratory (AVL) at the National Center for Supercomputing Applications and Director of the Illinois eDreamInstitute at the University of Illinois at Urbana-Champaign

Bonnie DeVarco
Media X Distinguished Visiting Scholar at Stanford University

Sara Irina Fabrikant
Associate Professor of Geography and head of the Geographic Information Visualization and Analysis (GIVA) group at the GIScience Center, University of Zürich, Switzerland

Marjorie M.K. Hlava
President, Chairman and founder of Access Innovations, Inc. and the founding Chair of the SLA Taxonomy Division

Peter A. Hook
Law librarian and doctoral student at the School of Library and Information Science at Indiana University, Bloomington, Indiana

Manuel Lima
Senior UX Design Lead at Microsoft Bing, Fellow of the Royal Society of the Arts, and founder of VisualComplexity.com

André Skupin
Associate Professor of Geography at San Diego State University, California

Eric Rodenbeck
Founder and Creative Director of Stamen and member of the Board of Directors of the Kenneth Rainin Foundation

Deborah MacPherson
Specifications and research at Cannon Design, technical standards development for Building Information Modeling (BIM), and Projects Director for the nonprofit organization Accuracy & Aesthetics

Lev Manovich
Professor, The Graduate Center, City University of New York Director, Software Studies Lab (big data, digital humanities, visualization)

Carlo Ratti
Architect, Engineer, and Director of the SENSEable City Lab at the Massachusetts Institute of Technology

Moritz Stefaner
Freelance designer on the crossroads of data visualization, information aesthetics, and user interface design in Germany

Stephen Uzzo
Vice President of Science and Technology for the New York Hall of Science and faculty member of the New York Institute of Technology Graduate School of Education

Caroline Wagner
Wolf Chair at the John Glenn School of Public Affairs and North American Editor of the Science & Public Policy journal

Benjamin Wiederkehr
Founding Partner and Managing Director of Interactive Things, a user experience design and information visualization studio in Zürich, Switzerland

The Exhibit On Display

Since its debut in 2005, *Places & Spaces* has appeared at some of the world's most renowned institutes of knowledge and learning, like the National Academy of Sciences, Stanford University, the Chinese Academy of Sciences, University College Dublin, and many more (see **scimaps.org/exhibitions** for a complete list of venues).

While the exhibit is at its best when displayed as a cohesive whole in a continuous space, it has also been presented to great effect as smaller conceptual units in separate (but not too distant) spaces. We can discuss with you the arrangements that best suit your situation in order to arrive at the perfect communion between exhibit and venue.

Contact us at **recorde@indiana.edu** today to begin the process of bringing *Places & Spaces* to your own valuable institution.

Galter Health Sciences Library, Northwestern University
May 1 – Oct 30, 2015

University of Miami - Miami, Florida
Sept 4 – Dec 11, 2014

David J. Sencer CDC Museum - Atlanta, GA
Jan 25 - June 17, 2016

Photo courtesy of Mike Jensen.

North Carolina State University – Raleigh, NC
Oct 14 – 27, 2013

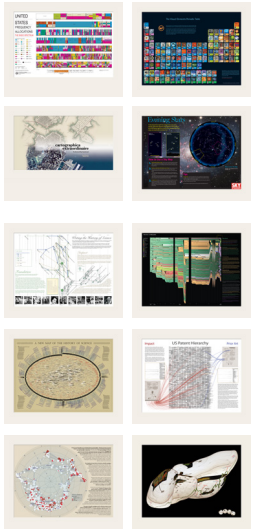
Overview of Exhibit Maps

Are you interested in seeing science from above? Curious to see what impact one single person or invention can have? Keen to find pockets of innovation? Desperate for better tools to manage the information flood? Or are you simply fascinated by maps?

This science exhibit is meant to inspire cross-disciplinary discussion on how best to track and communicate human activity and scientific progress on a global scale. It has two components: the physical part supports the close inspection of high quality reproductions of maps for display at conferences and education centers; the online counterpart at scimaps.org provides zoomable versions of every map and details about its creator(s), along with detailed explanations of how these maps work. It also has the schedule of physical showings. Each year, 10 new maps were added, resulting in 100 maps total in 2014.

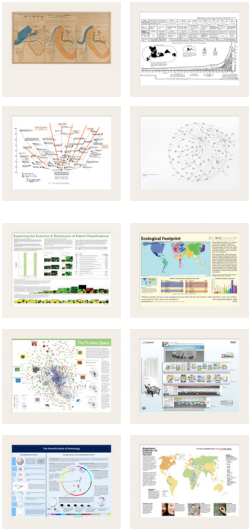
1st Iteration (2005)
The Power of Maps

2nd Iteration (2006)
The Power of Reference Systems



3rd Iteration (2007)
The Power of Forecasts

4th Iteration (2008)
Science Maps for Economic Decision Makers



5th Iteration (2009)
Science Maps for Science Policy Makers

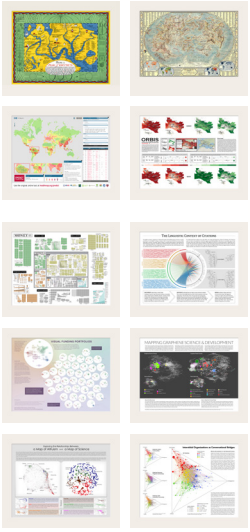
6th Iteration (2010)
Science Maps for Scholars

7th Iteration (2011)
Science Maps as Visual Interfaces to Digital Libraries

8th Iteration (2012)
Science Maps for Kids

9th Iteration (2013)
Science Maps Showing Trends and Dynamics

10th Iteration (2014)
The Future of Science Mapping



1st Iteration (2005): The Power of Maps

The first iteration of this exhibit aims to show the power of maps to help understand, navigate, and manage both physical places and abstract knowledge spaces.

The first maps of our planet were neither complete nor entirely accurate. Yet, they were invaluable for navigation, exploration, and communication. They helped explorers avoid monsters and find promising lands. Maps of science developed today are not perfectly precise either since they are generated based on only a small portion of humanity's scholarly knowledge. The generation of comprehensive and accurate maps requires the proper interlinkage of multilingual, multidisciplinary, and multimedia scholarly knowledge.

Note that each of the six early maps of science displayed uses a different metaphor. What metaphor is most effective in designing a visual index of humanity's knowledge and expertise?

I.1 Cosmographia World Map, by Claudius Ptolemy

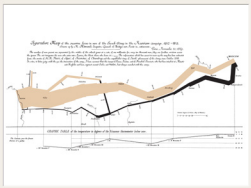
ULM, GERMANY, 1482
Courtesy of the James Ford Bell Library, University of Minnesota, Minneapolis, MN

I.2 Nova Anglia, Novvm Belgivm et Virginia, by Johannes Janssonius

AMSTERDAM, HOLLAND, 1642
Courtesy of the Library of Congress, Geography and Map Division, Washington, D.C.

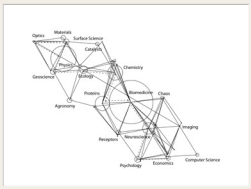
I.3 A New Map of the Whole World with the Trade Winds According to the Latest and Most Exact Observations, by Herman Moll

LONDON, ENGLAND, 1736
Courtesy of the David Rumsey Map Collection, Cartography Associates, San Francisco, CA



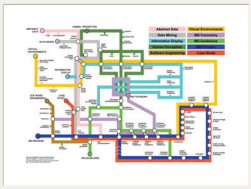
I.4 Napoleon's March to Moscow, by Charles Joseph Minard

PARIS, FRANCE, 1869
Courtesy of Edward Tufte, Graphics Press, Cheshire, CT



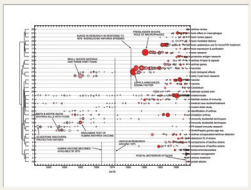
I.5 1996 Map of Science: A Network Representation of the 43 Fourth-Level Clusters Based on Data from the 1996 Science Citation Index, by Henry G. Small

PHILADELPHIA, PA, 1999
Courtesy of Henry Small, Thomson Reuters



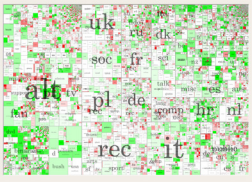
I.6 Ph.D. Thesis Map, by Keith V. Nesbitt

NEWCASTLE, AUSTRALIA, 2004
Courtesy of IEEE and Keith V. Nesbitt, Charles Sturt University, Australia © 2004 IEEE



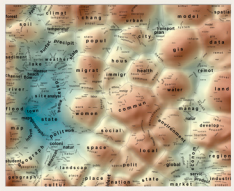
I.7 Timeline of 60 Years of Anthrax Research Literature, by Steven A. Morris

STILLWATER, OK, 2005
Courtesy of Steven A. Morris, Oklahoma State University



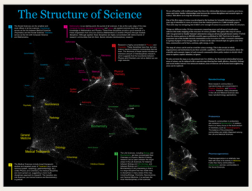
I.8 Treemap View of 2004 Usenet Returnees, by Marc Smith and Danyel Fisher

REDMOND, WA, 2005
Courtesy of the Community Technologies Group, Microsoft Research



I.9 In Terms of Geography, by André Skupin

NEW ORLEANS, LA, 2005
Courtesy of André Skupin, San Diego State University



I.10 The Structure of Science, by Kevin W. Boyack and Richard Klavans

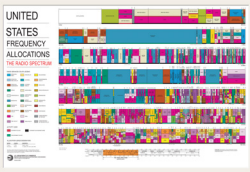
ALBUQUERQUE, NM & BERWYN, PA, 2005
Courtesy of Kevin W. Boyack, Sandia National Laboratories and Richard Klavans, SciTech Strategies, Inc.

2nd Iteration (2006): The Power of Reference Systems

The second iteration aims to inspire discussion about a common reference system for all of humanity's scholarly knowledge.

Throughout history, scientists have struggled to reach agreement upon standardized reference systems for their respective fields of research. The results include the electromagnetic spectrum, the periodic table of elements, geographic projections, and the celestial reference systems, all of which appear in this iteration. These standards are invaluable for indexing, storing, accessing, and managing scientific data efficiently.

Shown in comparison are six potential reference systems for scholarly knowledge. Each reference system—from the one-dimensional timeline, to the geospatial system, to the semantic system—could be used to identify the location of an author, paper, patent, or grant. This would highlight the dynamics of an author's, institution's, or country's contributions or the impact of a particular work.



II.1 U.S. Frequency Allocations Chart, by the National Telecommunications and Information Administration

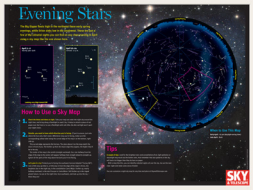
WASHINGTON, DC, 2003
Courtesy of the Office of Spectrum Management

II.2 Visual Periodic Table of the Elements, by Murray Robertson and John Emsley

LONDON, UK, 2005
Courtesy of the Royal Society of Chemistry. Images © Murray Robertson 1999–2006

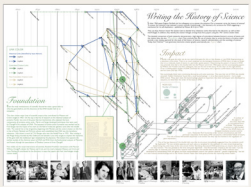
II.3 Cartographica Extraordinaire: The Historical Map Transformed, by David Rumsey and Edith M. Punt

SAN FRANCISCO, CA, MONTREAL & NOVA SCOTIA, CANADA, 2004
Courtesy of ESRI Press. Copyright © 2004 David Rumsey, ESRI, DigitalGlobe, Inc., MassGIS. All rights reserved.



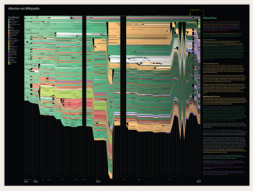
II.4 Sky Chart of New York City in April 2006, by Roger W. Sinnott and The Interactive Factory

CAMBRIDGE, MA, 2006
Courtesy of Sky & Telescope



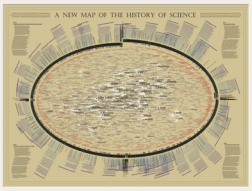
II.5 HistCite™ Visualization of DNA Development, by Eugene Garfield, Elisha F. Hardy, Katy Börner, Ludmila Pollock, & Jan Witkowski

PHILADELPHIA, PA, BLOOMINGTON, IN & NEW YORK, NY, 2006
Courtesy of Eugene Garfield, Thomson Reuters, Indiana University, and Cold Spring Harbor Laboratory



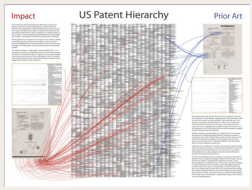
II.6 History Flow Visualization of the Wikipedia Entry on "Abortion," by Martin Wattenberg and Fernanda B. Viégas

CAMBRIDGE, MA, 2006
Courtesy of Martin Wattenberg, Fernanda B. Viégas, and IBM Research



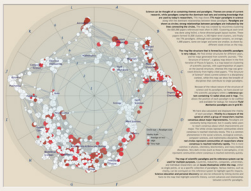
II.7 TextArc Visualization of The History of Science, by W. Bradford Paley

NEW YORK, NY, 2006
Courtesy of W. Bradford Paley



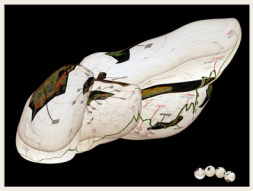
II.8 Taxonomy Visualization of Patent Data, by Katy Börner, Elisha F. Hardy, Bruce W. Herr II, Todd M. Holloway, and W. Bradford Paley

BLOOMINGTON, IN & NEW YORK, NY, 2006
Courtesy of Indiana University and W. Bradford Paley



II.9 Map of Scientific Paradigms, by Kevin W. Boyack and Richard Klavans

ALBUQUERQUE, NM & BERWYN, PA, 2006
Courtesy of Kevin W. Boyack, Sandia National Laboratories and Richard Klavans, SciTech Strategies, Inc.



II.10 WorldProcessor: Zones of Invention–Patterns of Patents, by Ingo Günther

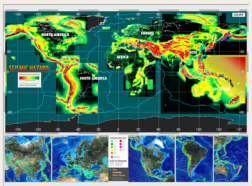
NEW YORK, NY, 2006
Courtesy of Ingo Günther

3rd Iteration (2007): The Power of Forecasts

The third iteration compares and contrasts maps of seismic hazards, resource depletion, economic models, and epidemic forecasts with maps forecasting the structure and evolution of science.

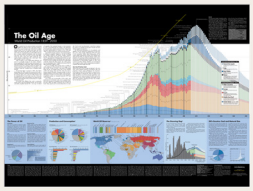
Real-time weather forecasts are served by the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA). Computational models of the movements of tectonic plates help reduce losses due to earthquakes, volcanic activity, or tsunamis. Economic models let us simulate either catastrophic or sustainable futures for humanity. Epidemic models allow us to understand how interconnected we all are and how actions far away affect us right here.

Daily science and technology forecasts would show science maps with overlays of top experts, institutions, countries, major activity bursts, or emerging research frontiers augmenting our knowledge and decision-making capabilities. Given the importance of such forecasts, one might question why they are not available on TV, in the press, or online.



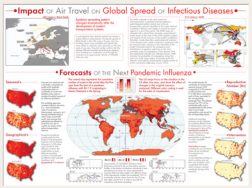
III.1 Tectonic Movements and Earthquake Hazard Predictions, by Michael W. Hamburger, Chuck Meertens, and Elisha F. Hardy

BLOOMINGTON, IN & BOULDER, CO, 2007
Courtesy of Indiana University and UNAVCO Consortium



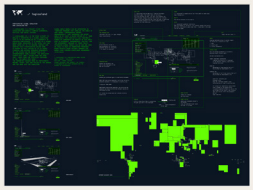
III.2 The Oil Age: World Oil Production 1859 to 2050, by Rob Bracken, Dave Menninger, Michael Poremba, and Richard Katz

SAN FRANCISCO, CA, 2006
Courtesy of San Francisco Informatics



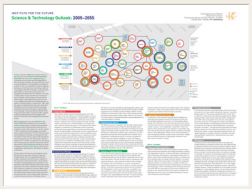
III.3 Impact of Air Travel on Global Spread of Infectious Diseases, by Vittoria Colizza, Alessandro Vespignani, and Elisha F. Hardy

BLOOMINGTON, IN, 2007
Courtesy of Indiana University



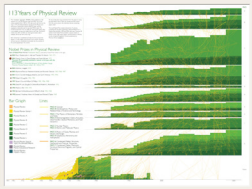
III.4 [./logicaland] Participative Global Simulation, by Michael Aschauer, Maia Gusberti, Nik Thoenen, and Sepp Deinhofer

VIENNA, AUSTRIA, 2002
Courtesy of Michael Aschauer, Maia Gusberti, Nik Thoenen, in collaboration with Sepp Deinhofer; www.re-p.org



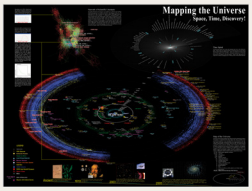
III.5 Science & Technology Outlook: 2005-2055, by Marina Gorbis, Jean Hagan, Alex Soojung-Kim Pang, and David Pescovitz

PALO ALTO, CA, 2006
Courtesy of The Institute for the Future



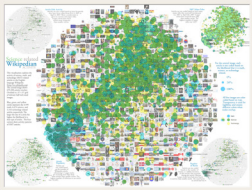
III.6 113 Years of Physical Review, by Bruce W. Herr II, Russell J. Duhon, Elisha F. Hardy, Shashikant Penumarthy, and Katy Börner

BLOOMINGTON, IN, 2006
Courtesy of Indiana University



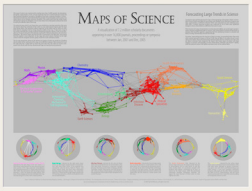
III.7 Mapping the Universe: Space, Time, and Discovery!, by Chaomei Chen, Jian Zhang, Lisa Kershner, Michael S. Vogeley, J. Richard Gott III, and Mario Juric

PHILADELPHIA, PA & PRINCETON, NJ, 2007
Courtesy of Drexel University and Princeton University



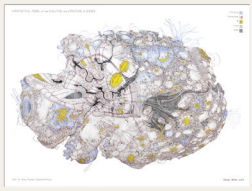
III.8 Science-Related Wikipedian Activity, by Bruce W. Herr II, Todd M. Holloway, Elisha F. Hardy, Kevin W. Boyack, and Katy Börner

BLOOMINGTON, IN & ALBUQUERQUE, NM, 2007
Courtesy of Indiana University



III.9 Maps of Science: Forecasting Large Trends in Science, by Richard Klavans and Kevin W. Boyack

BERWYN, PA & ALBUQUERQUE, NM, 2007
Courtesy of Richard Klavans, SciTech Strategies, Inc.



III.10 Hypothetical Model of the Evolution and Structure of Science, by Daniel Zeller

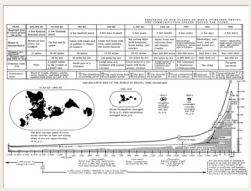
NEW YORK, NY, 2007
Courtesy of Daniel Zeller

4th Iteration (2008): Science Maps for Economic Decision-Makers

This is the first of six iterations that explore the utility of science maps for different stakeholders. The maps presented here meet the needs of economic decision-makers. They answer questions such as: What is the impact of war on global trade flows? How do accelerating communication and transportation speeds impact our lives? What events and time lags occur from basic research to product sale? What are the (social) networks behind illicit deals and laundered money? What intellectual property space is claimed by whom, and what growth is expected? What is the ecological footprint of a country, and how sustainable is it? How does the "product space" determine the economic development of nations? What are the best ways to empower strategy formation and value creation in organizations? How are publications linked to patents in different areas of science? What factors impact the happiness of citizens, and which countries experience the most happiness?

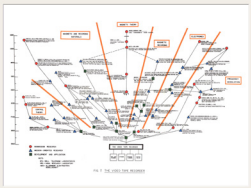
IV.1 Europe Raw Cotton Imports in 1858, 1864 and 1865, by Charles Joseph Minard

PARIS, FRANCE, 1866
Courtesy of the Library of Congress, Geography and Maps Division



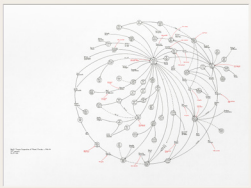
IV.2 Shrinking of Our Planet, by R. Buckminster Fuller and John McHale

CARBONDALE, IL, 1965
Courtesy of The Estate of R. Buckminster Fuller



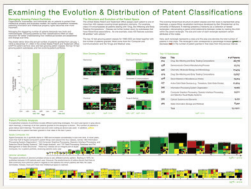
IV.3 Tracing of Key Events in the Development of the Video Tape Recorder, by George Benn and Francis Narin

CHICAGO, IL, 1968
Courtesy of the IIT Research Institute



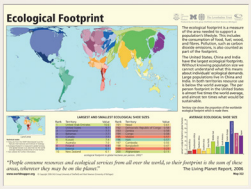
IV.4 World Finance Corporation, Miami, Florida, ca. 1970-79 (6th Version), by Mark Lombardi

NEW YORK, NY, 1999
Courtesy of Pierogi Gallery



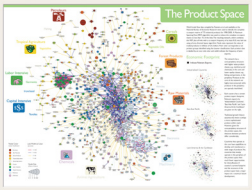
IV.5 Examining the Evolution and Distribution of Patent Classifications, by Daniel O. Kutz, Katy Börner, and Elisha F. Hardy

BLOOMINGTON, IN, 2004
Courtesy of Indiana University



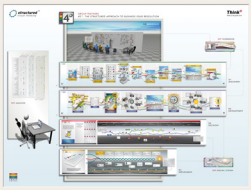
IV.6 Ecological Footprint, by Danny Dorling, Mark E. J. Newman, Graham Allsopp, Anna Barford, Ben Wheeler, John Pritchard, and David Dorling

SHEFFIELD, UK & ANN ARBOR, MI, 2006
Courtesy of Universities of Sheffield and Michigan



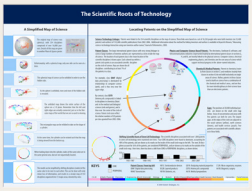
IV.7 The Product Space, by César A. Hidalgo, Bailey Klinger, Albert-László Barabási, and Ricardo Hausmann

BOSTON, MA, 2007
Courtesy of Harvard Kennedy School, Northeastern University & the University of Notre Dame



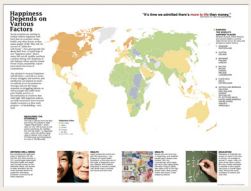
IV.8 4D™. The Structured Visual Approach to Business-Issue Resolution, by John Caswell, Hazel Tiffany, and Ian Francis

MAYFAIR, UK, 2008
Courtesy of Group Partners



IV.9 The Scientific Roots of Technology, by Kevin W. Boyack and Richard Klavans

BERWYN, PA & ALBUQUERQUE, NM, 2007
Courtesy of Richard Klavans, SciTech Strategies, Inc.

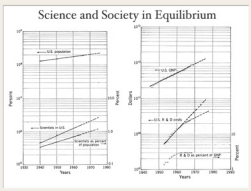


IV.10 A Global Projection of Subjective Well-Being, by Adrian White & the National Geographic EarthPulse Team

WASHINGTON, D.C., 2008
Courtesy of National Geographic

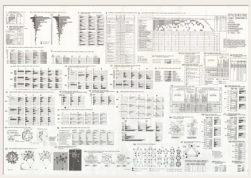
5th Iteration (2009): Science Maps for Science Policy Makers

This iteration shows science maps for science policy-makers as well as citizens interested in understanding national priorities, spending, and achievements. Featured are two early maps, two maps of observation and sensor data, and six maps of scholarly data. The maps communicate: The steady increase of scientists in the total population, versus a decline of R&D investment as a fraction of GNP; Categories for evaluating and comparing evolving scientific collaboration; Needed changes in the Boston Traffic Separation Scheme to reduce the risk of ships striking whales; Urban mobility patterns to improve the design and management of cities; The U.S. federal discretionary budget; Return on investment for U.S. chemistry R&D, including a timeline and investment cycles; Funding portfolios of the National Institutes of Health; The structure of science based on download (rather than publication) activity; Research leadership of the U.S. compared with the top-12 competitive nations; Progress towards the Millennium Development Goals to be achieved by 2015.



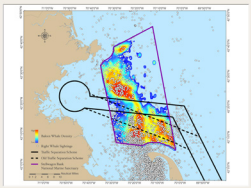
V.1 Science and Society in Equilibrium, by Joseph P. Martino

HOLLOMAN AIR FORCE BASE, NM, 1969
Reprinted with permission from AAAS



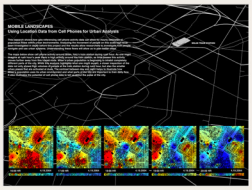
V.2 Networks of Scientific Communications, by Georgiy G. Dumenton

MOSCOW, RUSSIA, 1987
Courtesy of the RAN Institute for the History of Science, Russian Academy of Sciences



V.3 Realigning the Boston Traffic Separation Scheme to Reduce the Risk of Ship Strike to Right and Other Baleen Whales, by David N. Wiley, Michael A. Thompson, and Richard Merrick

SCITUATE, MA & WOODS HOLE, MA, 2006
Courtesy of the National Oceanic and Atmospheric Administration

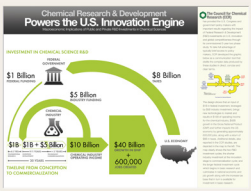


V.4 Mobile Landscapes: Using Location Data from Cell Phones for Urban Analysis, by Sarah Williams, Carlo Ratti, and Riccardo Maria Pulselli

CAMBRIDGE, MA, 2006
Courtesy of SENSEable City Laboratory, MIT

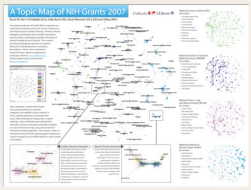
V.5 Death and Taxes 2009, by Jess Bachman

ONTARIO, CANADA, 2009
Courtesy of http://www.wallstats.com



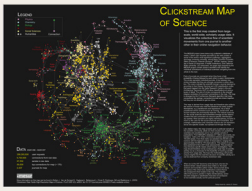
V.6 Chemical R&D Powers the U.S. Innovation Engine, by the Council for Chemical Research

WASHINGTON, D.C., 2009
Courtesy of Council for Chemical Research



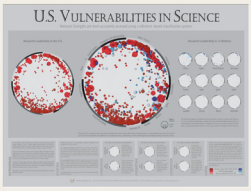
V.7 A Topic Map of NIH Grants 2007, by Bruce W. Herr II, Gully Burns, David Newman, and Edmund Talley

BLOOMINGTON, IN, 2009
Courtesy of ChalkLabs, Indiana University & Information Sciences Institute, University of California, Irvine



V.8 A Clickstream Map of Science, by Johan Bollen, Herbert Van de Sompel, Aric Hagberg, Luís M. A. Bettencourt, Ryan Chute, Marko A. Rodriguez, and Lyudmila Balakireva

LOS ALAMOS, NM, 2008
Courtesy of Los Alamos National Laboratory



V.9 U.S. Vulnerabilities in Science, by Kevin W. Boyack and Richard Klavans

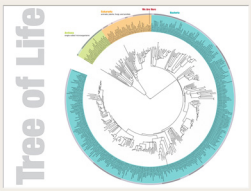
ALBUQUERQUE, NM & BERWYN, PA, 2008
Courtesy of SciTech Strategies, Inc.

V.10 The Millennium Development Goals Map, by the World Bank and National Geographic

WASHINGTON, D.C., 2006
Courtesy of the World Bank and National Geographic

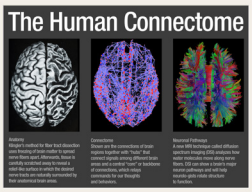
6th Iteration (2010): Science Maps for Scholars

This iteration explores the utility of science maps for scholars and answers questions such as: Who are our ancestors, and how are we related to other species? How do human brain regions interlink and impact our thoughts and behaviors? What drugs target what diseases, and how do disease phenotypes interact? How do children learn language in complex social environments, and how can language disorders be treated? What communities and interdisciplinary connections exist across the field of media art? How are scholars linked to texts, people, projects, events, their relationships, as well as personal comments? Which literary writers used what temporal and spatial settings in Victorian poetry? How do multiple scientific specialties merge to form a new area of science? How do scientists weave the fabric of science via collaborations and citations? Where are the academic jobs?



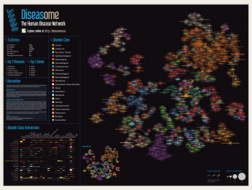
VI.1 Tree of Life, by Peer Bork, Francesca Ciccarelli, Chris Creevey, Berend Snel, and Christian von Mering

HEIDELBERG, GERMANY, 2006
Courtesy of European Molecular Biology Laboratory



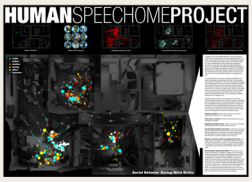
VI.2 The Human Connectome, by Patric Hagmann and Olaf Sporns

LAUSANNE, SWITZERLAND & BLOOMINGTON, IN, 2008
Courtesy of Little, Brown and Company, Patric Hagmann, and Olaf Sporns



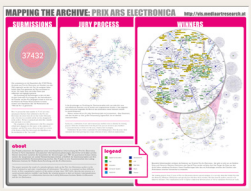
VI.3 Diseasome: The Human Disease Network, by Mathieu Bastian and Sebastien Heymann

PARIS, FRANCE, 2009
Courtesy of INIST-CNRS and Linkfluence



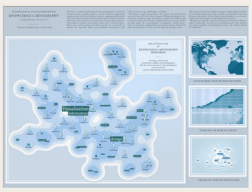
VI.4 Human Speechome Project, by George Shaw, Philip James DeCamp, and Deb Roy

CAMBRIDGE, MA, 2010
Courtesy of Cognitive Machines Group, MIT Media Lab



VI.5 Mapping the Archive: Prix Ars Electronica, by Dietmar Offenhuber, Moritz Stefaner, Evelyn Münster, Jaume Nualart, and Gerhard Dirmoser

LINZ, AUSTRIA, 2008
Courtesy of Ludwig Boltzmann Institute for Media.Art.Research. and Ars Electronica

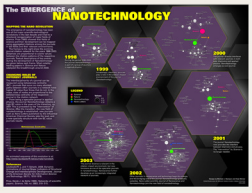


VI.6 Knowledge Cartography, by Marco Quaggiotto

MILANO, ITALY, 2008
Courtesy of INDACO Department, Politecnico di Milano, Italy and Complex Networks and Systems Group, ISI Foundation, Turin, Italy

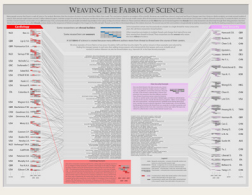
VI.7 Literary Empires: Mapping Temporal and Spatial Settings of Victorian Poetry, by John A. Walsh, Devin Becker, Bradford Demarest, Jonathan Tweedy, Theodora Michaelidou, and Laura Pence

BLOOMINGTON, IN, 2010
Courtesy of Indiana University, with



VI.8 The Emergence of Nanoscience & Technology, by Loet Leydesdorff

AMSTERDAM, THE NETHERLANDS, 2010
Courtesy of Loet Leydesdorff, Thomas Schank, and the Journal of the American Society for Information Science and Technology



VI.9 Weaving the Fabric of Science, by Richard Klavans and Kevin W. Boyack, SciTech Strategies, Inc.

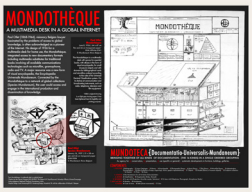
ALBUQUERQUE, NM & BERWYN, PA, 2010
Courtesy of Kevin W. Boyack and Richard Klavans, SciTech Strategies, Inc.

VI.10 U.S. Job Market: Where are the Academic Jobs?, by Angela M. Zoss and Katy Börner

BLOOMINGTON, IN, 2010
Courtesy of Indiana University

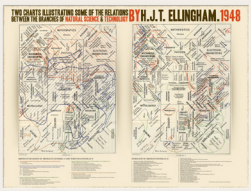
7th Iteration (2011): Science Maps as Visual Interfaces to Digital Libraries

This iteration explores the utility of science maps as visual interfaces to digital libraries to support the selection, navigation, management, and usage of resources by communicating: Early visions of a multimedia work station and the Internet. A hand-drawn map of natural sciences and technology with overlays of different index and abstracting services. A visualization of textual cross-references in the Bible. Differences in the coverage and search functionality of four major publication databases and their impact on search result sets. A comparison of Wikipedia's category structure and the Universal Decimal Classification. Expert locations and worldwide scientific collaboration patterns. The complete structure and interlinkage of different data types from a scholarly database to judge data quality and coverage. An overview of key metadata standards in the cultural heritage sector to assist planners with the selection and implementation of these standards. The hierarchical structure of over 2,800 terms for tagging digital resources in architecture in different languages. The history of science fiction rendered as graphical chronology.



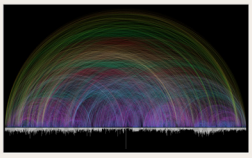
VII.1 Mondothèque. Multimedia Desk in a Global Internet, by Paul Otlet

BRUSSELS, BELGIUM, 1936/37
Courtesy of Mundaneum, Mons, Belgium



VII.2 A Chart Illustrating Some of the Relations between the Branches of Natural Science and Technology, by H.J.T. Ellingham

LONDON, UK, 1948
Courtesy of The Royal Society

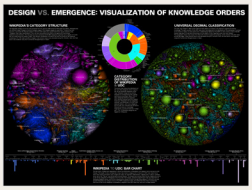


VII.3 Visualizing Bible Cross-References, by Chris Harrison and Christoph Römhild

PITTSBURGH, PA, 2008
Courtesy of Chris Harrison and Christoph Römhild

VII.4 Finding Research Literature on Autism, by Rex Robison

BETHESDA, MD, 2009
Courtesy of the National Institutes of Health Library

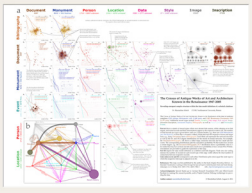


VII.5 Design vs. Emergence: Visualization of Knowledge Orders, by Alkim Almila Akdag Salah, Cheng Gao, Krzysztof Suchecki, and Andrea Scharnhorst

AMSTERDAM, THE NETHERLANDS, 2011
Courtesy of The Knowledge Space Lab, Royal Netherlands Academy of Arts and Sciences

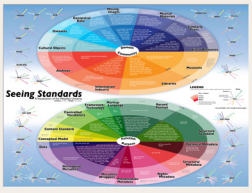
VII.6 Scientific Collaborations between World Cities, by Olivier H. Beauchesne

MONTRÉAL, CANADA, 2012
Courtesy of Science-Metrix, Inc.



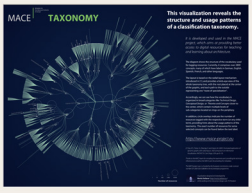
VII.7 The Census of Antique Works of Art and Architecture Known in the Renaissance, 1947-2005, by Maximilian Schich

BOSTON, MA, 2011
Courtesy of Maximilian Schich



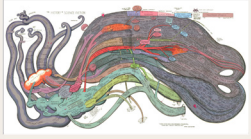
VII.8 Seeing Standards: A Visualization of the Metadata Universe, by Devin Becker and Jenn Riley

BLOOMINGTON, IN, 2009-2010
Courtesy of University of North Carolina at Chapel Hill and University of Idaho



VII.9 MACE Classification Taxonomy, by Moritz Stefaner

POTSDAM, GERMANY, 2011
Courtesy of Moritz Stefaner

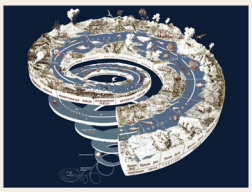


VII.10 History of Science Fiction, by Ward Shelley

BROOKLYN, NY, 2011
Courtesy of Ward Shelley Studio

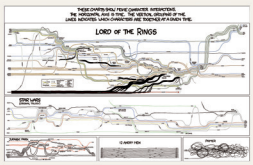
8th Iteration (2012): Science Maps for Kids

This iteration features science maps designed for children aged 5-14. The maps communicate: 4.5 billion years of Earth's evolution and the life forms that inhabit it. Fifty years of space exploration comprising nearly 200 missions from 1958 to 2008. A floor plan of The Metropolitan Museum of Art that shows a subset of its two million works of art spanning five thousand years of world culture. The political spectrum via a comparison of different stances on society and culture, family relationships, adulthood, and beliefs. The interplay of life expectancy and income per person for each country. How inventions and inventors are embedded in a vast web of human knowledge. Stylistic variations among 1,074,790 manga pages in 883 distinct series from Japan, Korea, and China. The fundamental interconnectedness of science and stories of how animals and accidents help discovery. The impact of language on human networks and communication patterns. The topical composition and length of over 3,000 educational videos and their usage by students around the globe.



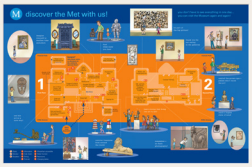
VIII.1 Geologic Time Spiral: A Path to the Past, by Joseph Graham, William Newman, and John Stacy

RESTON, VA, 2008
Courtesy of U.S. Geological Survey



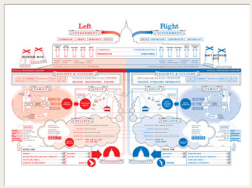
VIII.2 Movie Narrative Charts (Comic #657), by Randall Munroe

SOMERVILLE, MA, 2009
Courtesy of xkcd.com



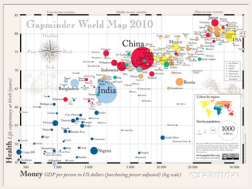
VIII.3 Metropolitan Museum of Art Family Map, by Masha Turchinsky and John Kerschbaum

NEW YORK, NY, 2008
Courtesy of the Metropolitan Museum of Art



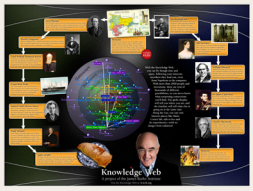
VIII.4 Left vs. Right Political Spectrum, by David McCandless and Stefanie Posavec

LONDON, UK, 2009
Courtesy of Information is Beautiful



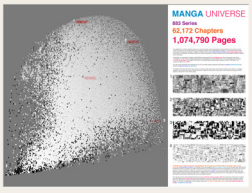
VIII.5 Gapminder World Map, by Mattias Lindgren

STOCKHOLM, SWEDEN, 2010
Courtesy of Gapminder Foundation, http://www.gapminder.org



VIII.6 Knowledge Web, by James Burke, Patrick McKercher, and Michael J. Stamper

SAN JOSE, CA and BLOOMINGTON, IN, 2012
Courtesy of the James Burke Institute

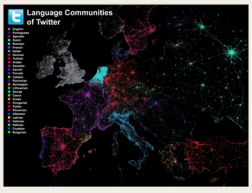


VIII.7 Manga Universe, by Lev Manovich and Jay Chow

SAN DIEGO, CA, 2012
Courtesy of Software Studies Initiative, UCSD

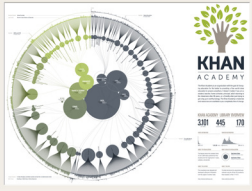
VIII.8 The Fundamental Interconnectedness of All Things, by Matthew Richardson, Judith Kamalski, Sarah Huggett, and Andrew Plume

OXFORD, UK & AMSTERDAM, THE NETHERLANDS, 2012
Courtesy of Elsevier Ltd



VIII.9 Language Communities of Twitter, by Eric Fischer

OAKLAND, CA, 2012
Courtesy of Eric Fischer

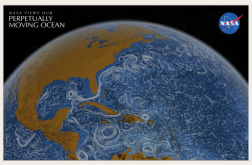


VIII.10 Khan Academy Library Overview, by Benjamin Wiederkehr and Jérôme Cukier

ZÜRICH, SWITZERLAND, 2012
Courtesy of Interactive Things

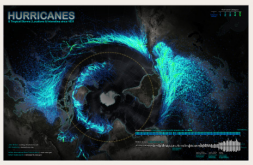
9th Iteration (2013): Science Maps Showing Trends and Dynamics

This iteration features science maps that show general trends and dynamics in science and technology. The maps communicate: Ocean circulation estimates to quantify the ocean's role in the global carbon cycle and to monitor its evolving heat, water, and chemical exchanges over time; Over 160 years of recorded tropical storms and hurricanes by their paths and intensities; Global polar bear abundance figures, harvest rates, circumpolar pollution levels, and the shrinking Arctic sea ice; The mood of the U.S. based on an analysis of over 300 million public tweets sent between September 2006 and August 2009; Complexity science's major intellectual traditions, leading scholarly themes and methods, as well as key scholars who founded or pioneered work; The development of science during the period 1980–2010 based on key terms and phrases; Hewlett Foundation funding distribution and impact in support of future funding applications and grant-making decisions; Popular living people profiles and their interlinkages from eight different-language Wikipedias showing cultures and their evolution; An identification of scientific discoveries and technological innovations using 23 million papers and patents; The evolving structure of scientific fields, exemplified for prosthetic science.



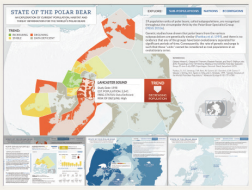
IX.1 NASA Views Our Perpetually Moving Ocean, by Dimitris Menemenlis, Horace G. Mitchell, Christopher N. Hill, and Gregory W. Shirah

GREENBELT, MD, 2011
Courtesy of the Scientific Visualization Studio at NASA's Goddard Space Flight Center



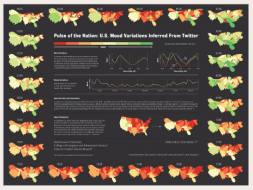
IX.2 Hurricanes & Tropical Storms—Locations and Intensities since 1851, by John Nelson

LANSING, MI, 2012
Courtesy of IDV Solutions



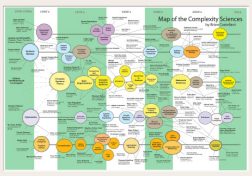
IX.3 State of the Polar Bear, by Dino Citraro, Kim Rees, Jacob O'Brien, Brett Johnson, Domanique Alicia, and Andrew Winterman

Portland, OR, 2013
Courtesy of Periscopic



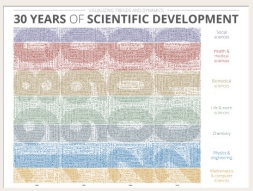
IX.4 Pulse of the Nation, by Alan Mislove, Sune Lehmann, Yong-Yeol Ahn, Jukka-Pekka Onnela, and James Niels Rosenquist

Boston, MA, 2010
Courtesy of JanysAnalytics



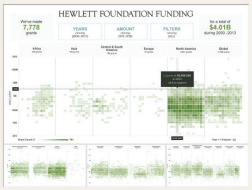
IX.5 Map of Complexity Science, by Brian Castellani

CLEVELAND, OH, 2013
Courtesy of Arts and Science Factory, LLC



IX.6 Visualizing Trends and Dynamics: 30 Years of Scientific Development, by Nees Jan van Eck, Ludo Waltman, and Ferdy van Gool

LEIDEN, THE NETHERLANDS, 2013
Courtesy of the Centre for Science and Technology Studies of Leiden University, the Netherlands

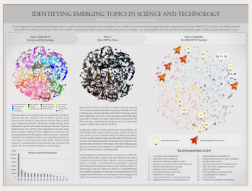


IX.7 The Hewlett Foundation Grant Visualizer, by Dino Citraro, Kim Rees, Jacob O'Brien, Brett Johnson, Andrew Winterman, and Andrew Witherspoon

Portland, OR, 2013
Courtesy of Periscopic

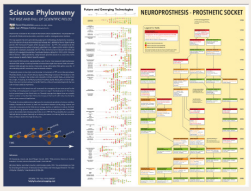
IX.8 Who Really Matters in the World—Leadership Networks in Different-Language Wikipedias, by Peter A. Gloor, Keiichi Nemoto, Samuel T. Mills, and David E. Polley

CAMBRIDGE, MA, and BLOOMINGTON, IN, 2013. Courtesy of the MIT Center for Collective Intelligence, Fuji Xerox, the Cyberinfrastructure for Network Science Center, and Sar Haidar



IX.9 Identifying Emerging Topics in Science and Technology, Kevin W. Boyack, Richard Klavans, and Henry G. Small

ALBUQUERQUE, NM & BERWYN, PA, 2013
Courtesy of SciTech Strategies, Inc.



IX.10 Science Phylomemy, by David Chavalarias and Jean-Philippe Cointet

PARIS, FRANCE, 2013
Courtesy of the Complex Systems Institute of Paris Ile-de-France (ISC-PIF), the Center for Social Mathematics and Analysis (CAMS-CNRS) and INRA-SenS.

10th Iteration (2014): The Future of Science Mapping

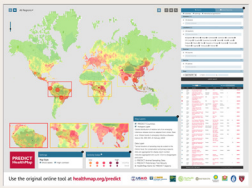
This 10th and final iteration aims to inspire continuous innovation and the utilization of science mapping by featuring visualizations of: Physics—from the 6th century B.C. to the present—to communicate key theoretical starting points, streams of thought and well-known diagrams; The Internet with old and new continents of websites and services; Emerging pandemic threats in the developing world for early detection of viruses from wildlife with pandemic potential; Roman transportation that shows the impact of geography and seasonality on transportation time, costs, and the dominance of cities; Money to illustrate possession and expenditure from dollars to trillions of dollars; Citation contexts to provide insight on the internal organization of scientific papers; Funding portfolios to compare and coordinate funding efforts across agencies; Graphene publications and patents to help illustrate innovation dynamics in support of business and policy decision-making; Altruism to understand the commonalities with and differences from scientific activities; Interstitial organizations that create bridges between civic ideals, managerial concepts, and scientific assessment; Please enjoy the maps then map your very own data.

X.1 Being a Map of Physics, by Bernard H. Porter

Houlton, ME, 1939
Courtesy of Maine State Library and Mark Melnicove

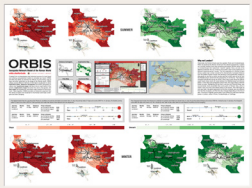
X.2 Map of the Internet, by Martin Vargic

BRATISLAVA, SLOVAKIA, 2014
Courtesy of Halcyon Maps & Martin Vargic



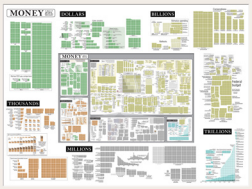
X.3 PREDICT: HealthMap, by John Brownstein, Damien Joly, William Karesh, Peter Daszak, Nathan Wolfe, Tracey Goldstein, Susan Aman, Clark Freifeld, Sumiko Mekaru, Tammie O'Rourke, Stephen Morse, Christine Kreuder Johnson, Jonna Mazet, and the PREDICT Consortium

DAVIS, CA & BOSTON, MA, 2014
Courtesy of USAID, UC Davis School of Veterinary Medicine, and Children's Hospital Boston



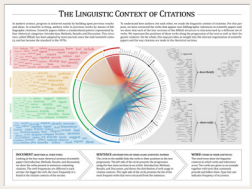
X.4 ORBIS, by Elijah Meeks and Walter Scheidel

STANFORD, CA, 2014
Courtesy of Stanford University Libraries and Stanford Department of Classics



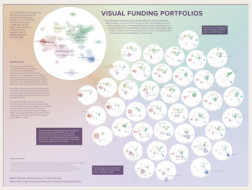
X.5 Money, by Randall Munroe

SOMERVILLE, MA, 2009
Courtesy of xkcd.com



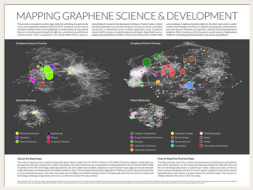
X.6 The Linguistic Context of Citations, by Marc Bertin, Iana Atanassova, Vincent Larivière, and Yves Gingras

MONTRÉAL, CANADA, 2014
Courtesy of OST-CIRST, Université du Québec à Montréal



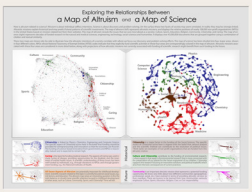
X.7 Visual Funding Portfolios, by Moritz Stefaner, Mario Diwersy, and Christian Herzog

LILENTHAL, COLOGNE, AND FRANKFURT, GERMANY, 2014
Courtesy of ÜberResearch



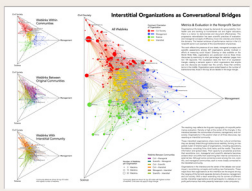
X.8 Mapping Graphene Science and Development: Focused Research with Multiple Application Areas, by Luciano Kay, Alan L. Porter, Ismael Rafols, Nils Newman, and Jan L. Youtie

SANTA BARBARA, CA, ATLANTA, GA & VALÈNCIA, SPAIN, 2014
Courtesy of Center for Nanotechnology in Society (UCSB), Georgia Tech, and Intelligent Information Services Corporation, Ingenio (CSIC-UPV)



X.9 Exploring the Relationships between a Map of Altruism and a Map of Science, by Richard Klavans and Kevin W. Boyack

BERWYN, PA & ALBUQUERQUE, NM, 2014
Courtesy of SciTech Strategies, Inc.



X.10 Interstitial Organizations as Conversational Bridges, by Walter W. Powell, Achim Oberg, and Valeska P. Korff

STANFORD, CA, 2014
Courtesy of Achim Oberg from a research project supported by the Stanford University Center on Philanthropy and Civil Society

Additional Elements

Humanexus Short Film

This semi-documentary animation is the product of a close collaboration between Katy Börner and artist Ying-Fang Shen. Viewers of Humanexus will be struck by the evocative relationship between Shen's visuals and the rich aural landscape created by composer and sound designer Norbert Herber, a senior lecturer in Indiana University's Department of Telecommunications.

The film visualizes human communication from the Stone Age to today and beyond. It aims to make tangible the enormous changes in the quantity and quality of our collective knowledge and the impact of different media and distribution systems on knowledge exchange.

Humanexus has been an international hit, winning numerous awards around the globe including Third Prize at the Aviff Cannes Art Film Festival, Best Original Screenplay (Animation) at the 2014 Unofficial Google+ Film Festival, Best Short Animation at the 2014 Albany FilmFest, Award of Excellence at the 2014 Canada International Film Festival, and the Documentary Shorts Award and Best Director Award at the 2014 Macon Film Festival, Macon, GA, USA, among others.

Learn more about the film at **cns.iu.edu/humanexus**.

WorldProcessor Globes

Also included in the exhibit are three ***WorldProcessor Globes***: 1) *Foreign US Patent Holders* (#294); 2) *Patterns of Patents & Zones of Invention* (#286); and 3) *Shape of Science*. Over the last 15 years, sculptor and media artist Ingo Günther has mapped social, scientific, political, and economic data on globes as navigational guides in a globalized world. Using data from the U.S. Patent and Trademark Office, this globe represents half of all patents in the United States—namely those registered to foreign holders. Countries with more than 1,000 patents registered in the U.S. are indicated by name, with the point size of the representative text scaled according to the square root of the total number of U.S. patents held. If the total number of domestically held U.S. patents were indicated according to this logic, the entire surface of the globe would be covered. To explore other Worldprocessor globes, visit **worldprocessor.org**.

Additional Elements

Illuminated Diagram Display

Illuminated Diagrams (ID) add the flexibility of an interactive program to the incredibly high data density of a printed map. This technique is generally useful when there is too much pertinent data to be displayed on a screen but the data is relatively stable. The computer can direct the eye to what's important by using projectors as smart spotlights, animating stories in the static data (such as the spread of an idea's influence), giving a radar-like "grand tour" of science, or highlighting query results (as when you touch the lectern) with an overlay of moving light. The ID lets visitors select major inventors and scientists and indicates their physical location on a map of our planet and their scientific contributions on a map of all of science. See a demo video at **cns.iu.edu/videos**

Gapminder Card Game

Designed as a group exercise, this card game is a companion activity to map VIII.5, Gapminder World Map. Students are given a number of "country cards." They are asked to group/arrange the cards in a way that they think reflect the gaps in the world today. Afterwards they compare their arrangement with the "Gapminder World Map" graph.

Key messages of the exercise: This exercise helps students think about the gaps in the world today and helps challenge preconceived ideas about how the contemporary world looks. The exercise can also be used to stimulate an interest in using statistics to understand the world.

Download the game at **www.gapminder.org/downloads/card-game**.

Exhibit Video

A video of the New York Public Library (NYPL) exhibit was recorded that features a walk-through of the exhibit, as well as interviews with major map makers. The video comes with the exhibit and is available for sale at **scimaps.org/exhibit_info/video**.

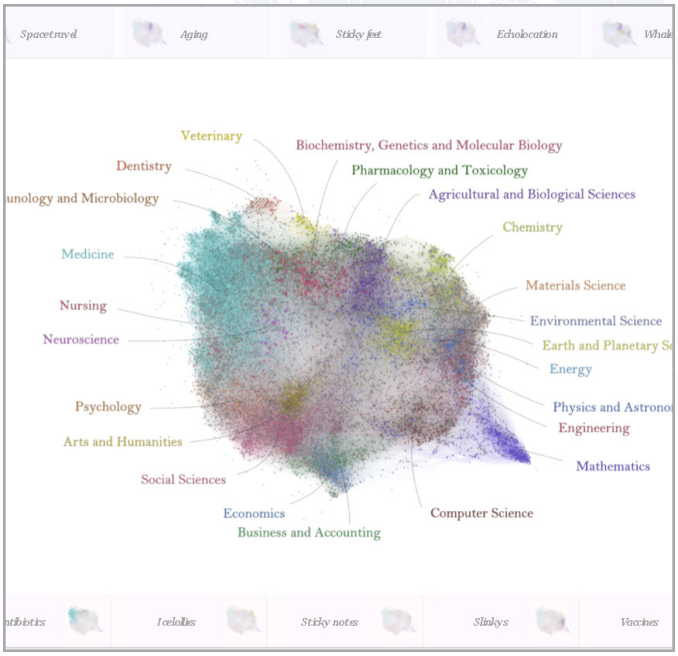
An enhanced podcast of the exhibit is linked from scimaps.org/host (select "Audio-Visual Tour" from the left-hand menu). It is meant to provide a guided tour of the NYPL exhibit.

Additional Elements

Inside the Museum: The Metropolitan Museum of Art, by John Kerschbaum

NEW YORK, NY, 2008
Courtesy of the Metropolitan Museum of Art

Do you like Where's Waldo? If you do, then you'll love this complement to the Metropolitan Museum of Art Family Map floor plan map in this exhibit! Illustrator John Kerschbaum and the Met's Senior Publishing and Creative Manager Masha Turchinsky created this *Inside the Museum* map that emphasizes the vastness of the Metropolitan's holdings and spaces. It is intentionally jam-packed with approximately 3,000 illustrations of objects, which were researched, sketched, and drawn over a period of three years. The illustrated poster conveys the endless opportunities to discover and connect the treasures of the Museum. A scavenger hunt game in the border offers fun clues that remind visitors that art rewards close looking. Can you find the elephant with a clock on its back? Do you see the dog, dressed like a man, barking at an old black cat? Where is William, the MET's unofficial mascot? Compile your score and look up your rating. Finally, plan your trip well and come back often to put the "art" in "smart."



The Fundamental Interconnectedness of All Things [dynamic format], by Matthew Richardson, Judith Kamalski, Sarah Huggett, and Andrew Plume

OXFORD, UK & AMSTERDAM, THE NETHERLANDS, 2012
Courtesy of Elsevier Ltd

How can we fully explore different disciplinary perspectives? This dynamic version of The Fundamental Interconnectedness of All Things, also developed by bibliometrics specialists Matthew Richardson, Judith Kamalski, Sarah Huggett, and Andrew Plume, allows you to forge your own path through the interconnected domains of knowledge. The map positions 19,562 journals according to their citation relationships using a journal–journal citation matrix from Elsevier's *Scopus* database. Journal nodes are colored using a simplified version of the *Scopus* journal classification system, and journals in any given subject can be seen to cluster together. The network was laid out using the Force Atlas 2 algorithm in Gephi 0.8 beta, which draws related journals towards one another in the map until a balanced state is achieved. Any area can be selected by clicking on the map or label to find out more about it. Themed stories above and below the map show what we can learn from animals and the importance of accidents for discovery. The scientific fields these stories illustrate are highlighted on the map and show how multiple areas of knowledge can be relevant to a particular topic—and how collaboration across subjects can help to drive new knowledge.

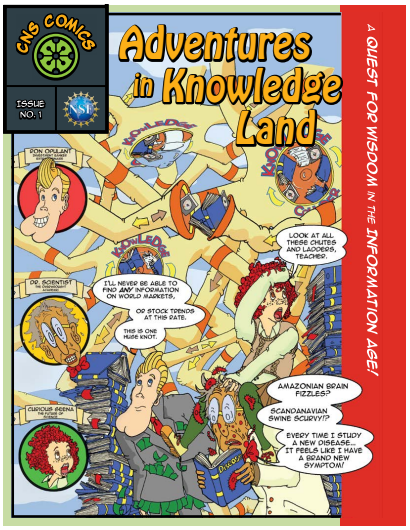
Additional Elements

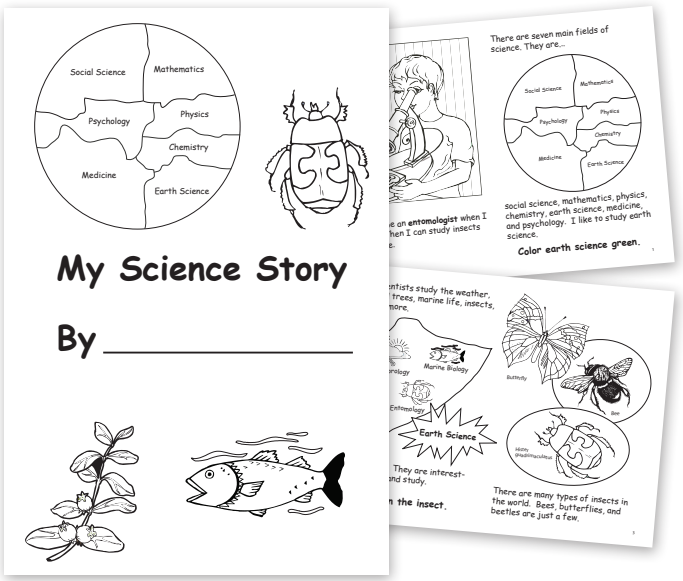
Hands-On Science Maps for Kids

These maps invite children to see, explore, and understand science from above. One map shows our world and the places where science gets done. The other shows major areas of science and their complex interrelationships. Both maps also appear in the Illuminated Diagram display, seen above. Drawings by Fileve Palmer were added to make different continents as well as different areas of science more tangible. Children, and adults alike, are invited to help solve the "puzzle" by sliding major scientists, inventors, and inventions into their proper places. Start by selecting either of the two maps. Decide if you want to place famous people or major inventions first. Turn the map over when you are done and start again. Look for the many hints hidden in the drawings to find the perfect place for each puzzle piece.

Adventures in Knowledge Land Comic Book

This comic book was designed by Geoff Hobart, a freelance cartoonist currently living in Chapel Hill, North Carolina, in close collaboration with Katy Börner, Victor H. Yngve Professor of Information Science at the School of Library and Information Science at Indiana University in Bloomington, IN. Much of Börner's commentary was taken from the Atlas of Science by MIT Press. Geena was inspired by Börner's daughter Eleanor. We would like to thank Todd Theriault for editing the commentaries and Tracey Theriault for adding all the science maps and building the final layouts.





"My Science Story" Coloring Book

"My Science Story" was created by Nicole (Nikki) Roberg in December 2005 as a way to engage children attending the exhibit and provide them with a rudimentary introduction to information visualization. It is based on the following work:

- Boyack, Kevin W., Klavans, R. and Börner, Katy. (2005). Mapping the Backbone of Science. *Scientometrics*. 64(3), 351-374.
- Nicole (Nikki) A. Roberg. Science Maps for Kids. Submitted to the *Symposium on Knowledge Domain Visualizations* @ IV 2006, London, UK, July, 2006. http://www.graphicslink.demon.co.uk/IV05/KDViz.htm

Hosting Options

The exhibit can be displayed in four different setups (see details on the following pages). The **Physical Exhibit** is a traveling exhibit which stays at your venue for a set period of time; the **Maps-Only Exhibit** allows you to select high-quality exhibit maps to keep permanently; the **Poster Exhibit** offers smaller size poster versions of the exhibit to keep permanently; and the **Digital Exhibit** is a high-resolution slideshow of all exhibit maps that can be customized for projection or media walls.

Physical Exhibit

Maps-Only Exhibit

Poster Exhibit

Digital Exhibit

Depending on the exhibit space, some or all of the items listed below should be considered in conjunction with the exhibit:

- Opening reception
- Speaker series
- Press releases
- Advertising posters or banners
- Work station to access exhibit website and interactive content
- Television with DVD player to play the exhibit video
- Screening of *Humanexus* short film

Physical Exhibit

Contains:

» Full set of 100 individually printed maps at 30 x 24 in. (61 x 76 cm) each, printed on premium photographic paper and mounted on gatorboard

» 100 map description labels

» 10 compare & contrast labels

» 1 customized Introductory panel

» Interactive elements, including the award-winning *Humanexus* short film

Setup Requirements:

» 520 ft. (158 m) of wall space

» 350 sq. ft. (33 m^2) of floor space

Estimated Total Cost:

$10,000*

**Plus shipping. Please contact us for a custom quote.*

Maps-Only Exhibit

Contains:

» Your choice of any of 100 individually printed maps at 30 x 24 in. (61 x 76 cm) each

» Fine-print labels on maps

» High-resolution, full-color maps printed on premium photographic paper and mounted on laminated foam-core with elegant black metal framing

Setup Requirements:

» Local host hangs posters

» Amount of wall space needed varies based on the number of maps selected

Total Cost:

$250*

per map

**Plus shipping. Unmounted prints also available at a reduced cost.*

Poster Exhibit

Contains:

» 20 posters, each 60-70 x 36 in. (152-178 cm x 91 cm) (two per iteration)

» Glossy paper prints

Setup Requirements:

» Up to 108 running ft. (33 m) of wall, window, or display board space, depending on how many iterations shown.

» Table space for handouts is desirable but not required.

» Local host hangs posters

Total Cost:

$150
for iteration (2 posters)

$950
for the full set of 20 posters

**Plus shipping. Cost will vary depending on your location.*

Digital Display

Contains:

» Standard PowerPoint slideshow of 100 maps without descriptions (titles only)

or

» Slideshow of 100 maps with descriptions, customized to fit your space

Setup Requirements:

» High-resolution media wall or high-quality projector and minimum 10 x 8 ft. (2.4 x 3 m) of light-colored wall space

» Local host handles deployment of files

» Optional interactivity (i.e., searching/selecting via iPad interface) can be added by CNS at an additional fee

Total Cost:

$500
for standard PowerPoint slideshow

$2000+
for customized slideshow

**Cost will vary depending on the level of customization. Please contact us to discuss the options available.*