Atlas of Science
Visualizing What We Know

Katy Börner

"Imagine a world in which every single human being can freely share in the sum of all knowledge. That's what we're doing."

—Jimmy Wales
Founder, Wikipedia

SHRINKING OF OUR PLANET BY MAN'S INCREASED TRAVEL AND COMMUNICATION SPEEDS AROUND THE GLOBE

YEAR	500,000 BC	20,000 BC	300 BC	500 BC	1,500 AD	1900 AD	1925	1950	1965
Required time to travel around the globe	A few hundred thousand years	A few thousand years	A few hundred years	A few tens of years	A few years	A few months	A few weeks	A few days	A few hours
Means of transportation	Human on foot (over ice bridges)	On foot and by canoe	Canoe with small sail or paddles or relays of runners	Large sail boats with oars, pack animals, and horse chariots	Big sailing ships (with compass, horse teams, and coaches)	Steam boats and railroads (Suez and Panama Canals)	Steamships, transcontinental railways, autos, and airplanes	Steamships, railways, auto jet and rocket aircraft	Atomic steamship, high speed railway subs, and pocket-jet aircraft
Distance per day(land)	15 miles	15-20 miles	20 miles	15-25 miles	20-25 miles	Rail 300-900 miles	400-900 miles	Rail 500-1,500	Rail 1000-2000
Distance per day (sea or air)		20 by sea	40 miles by sea	135 miles by sea	175 miles by sea	250 miles by sea	3,000-6000 air	6000-9500 air	400,000 air
Potential state size	None	A small valley in the vicinity of a small lake	Small part of a continent	Large area of a continent with coastal colonies	Great parts of a continent with trans-oceanic colonies	Large parts of a continent with transoceanic colonies	Full continents & Transcontinental Commonwealths	The Globe	The globe and more
Communications	Word of mouth, drums, smoke, relay runners, and hand printed manuscripts prior to 1441 A.D.	① The Gutenberg 1441 printing press	② The rapid print 1811 newspaper press	③ The Bell 1876 telephone	④ The Marconi 1895 telegraph	⑤ First commercial 1920 radio broadcast	⑥ National 1936 Television	⑦ Transcontinental T.V. 1965 with the introduction of Early Bird satellite	

THE RELATIVE SIZE OF THE WORLD AS TRAVEL TIME DECREASES

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15,00 AD –1840 AD

1850-1930

Steam locomotives averaged 65 m.p.h. while steamships averaged 36 m.p.h.

1950's — Propeller aircraft averaged 300-400 m.p.h.

1960's — Jet passenger aircraft averaged 500-700 m.p.h.

The best average speed of horse drawn coaches on land and sailing ships at sea was approximately 10 m.p.h.

Carevel=5 mph.

Man on foot = 3 mph

This toned area represents population growth

XB-70
Jet super sonic
Jet
First flight across the Atlantic
Automobile
Steam locomotive
Horse Coach

7,000 6,000 5,000 4,000 3,000 2,000 1,000 — BC AD — 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 20 40 60 80 1965

5,000 years of villages & towns — and then

Rome was the only metropolis of over 1,000,000 people from this date forward until 1800 AD.

Rome's population declined by 30,000

Bubonic plague wiped out 1/4 of Europe's population

For the first time in history it began to be safe for men to live in large cities because of advances in medicine and sanitation. Life was made more secure and comfortable by the Industrial Revolution & mechanized farming

5,000 years (300BC-1800AD) in which towns slowly evolved into cities, and then into metropolises.

need insight in

Mapping Science

Mapmakers come from all over the world

Iteration 1: The Power of Maps (2005) | Iteration 2: The Power of Reference Systems (2006) | Iteration 3: The Power of Forecasts (2007) | Iteration 4: Science Maps for Economic Decision Makers (2008) | Iteration 5: Science Maps for Science Policy Makers (2009) | Iteration 6: Science Maps for Scholars (2010) | Iteration 7: Science Maps as Visual Interfaces to Digital Libraries (2011) | Iteration 8: Science Maps for Kids (2012)

When?

When?   Where?

When?   Where?   What?

When?   Where?   What?   With Whom?

When?   Where?   What?   With Whom?   Why?

When?   Where?   What?   With Whom?   Why?
Temporal   *Geospatial*   *Topical*   *Network Analysis*   *Modeling*