

Emergence: From Technocracy to Democracy

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“Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite.”

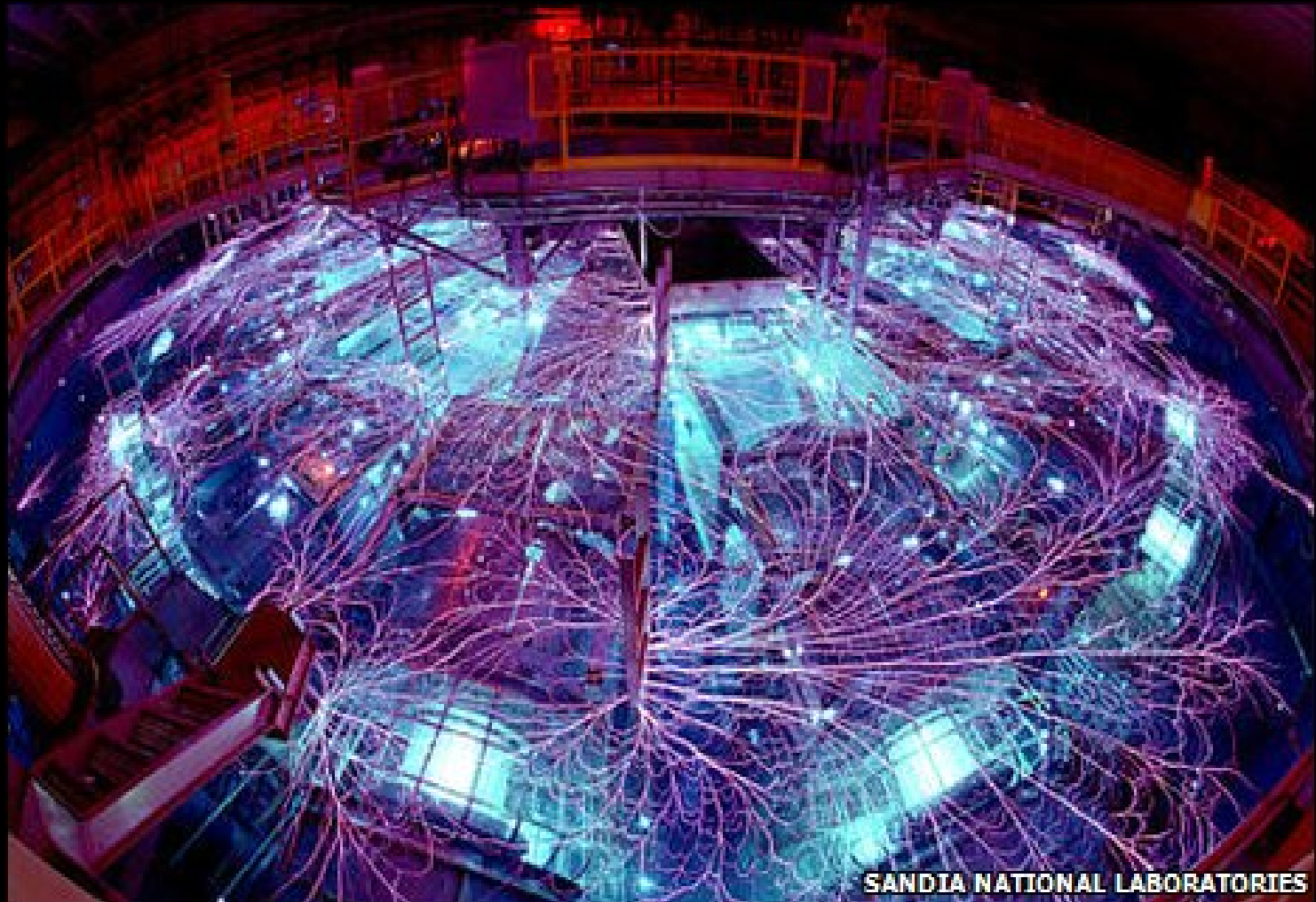
“It is the task of statesmanship to mold, to balance, and to integrate these and other forces, new and old, within the principles of our democratic system – ever aiming toward the supreme goals of our free society.”

People make technologies.



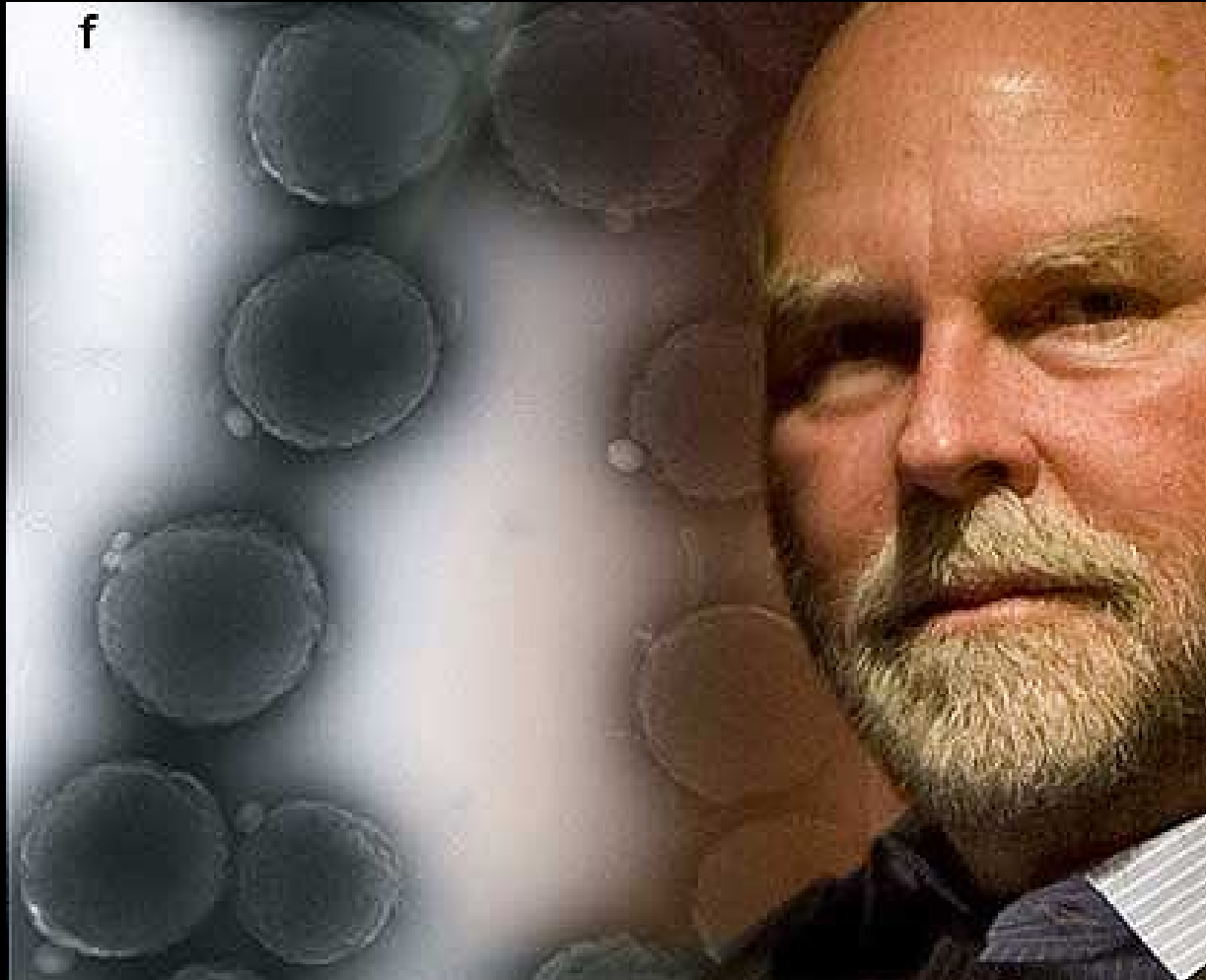
Flint-knapper's hands

People make technologies.



the z-machine

People make technologies.



Craig Venter and his “synthetic organism”

People live in, with and through technologies.



panopticon

People live in, with and through technologies.



e-waste

People live in, with and through technologies.



“virtual fence” on US-Mexico border

Technological change and social change are closely connected.



Guillotine and the French Revolution

Technological change and social change are closely connected.



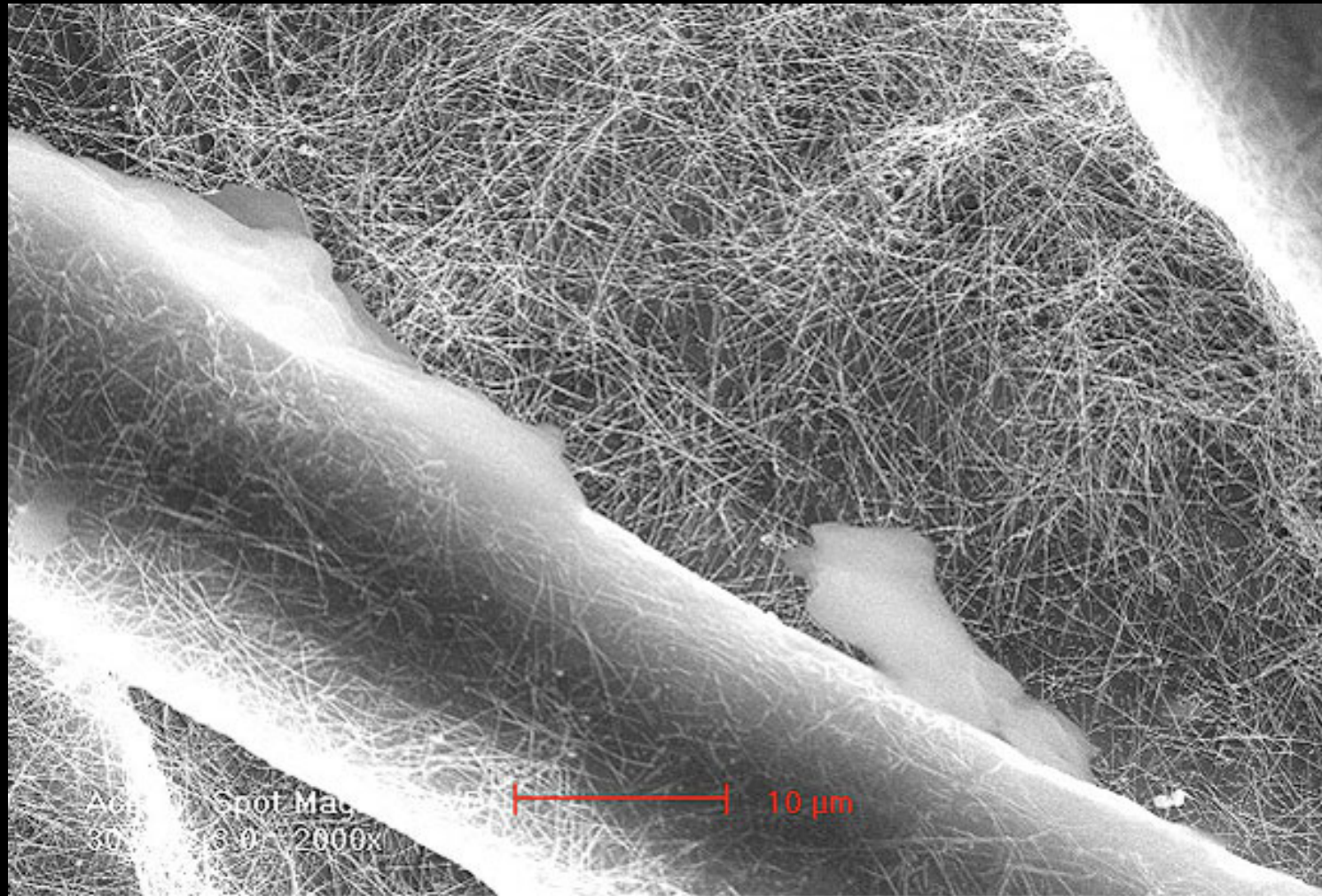
Representative Weiner and Sexting

There are multiple technological solutions to a given problem.



Filtering water through a

There are multiple technological solutions to a given problem.



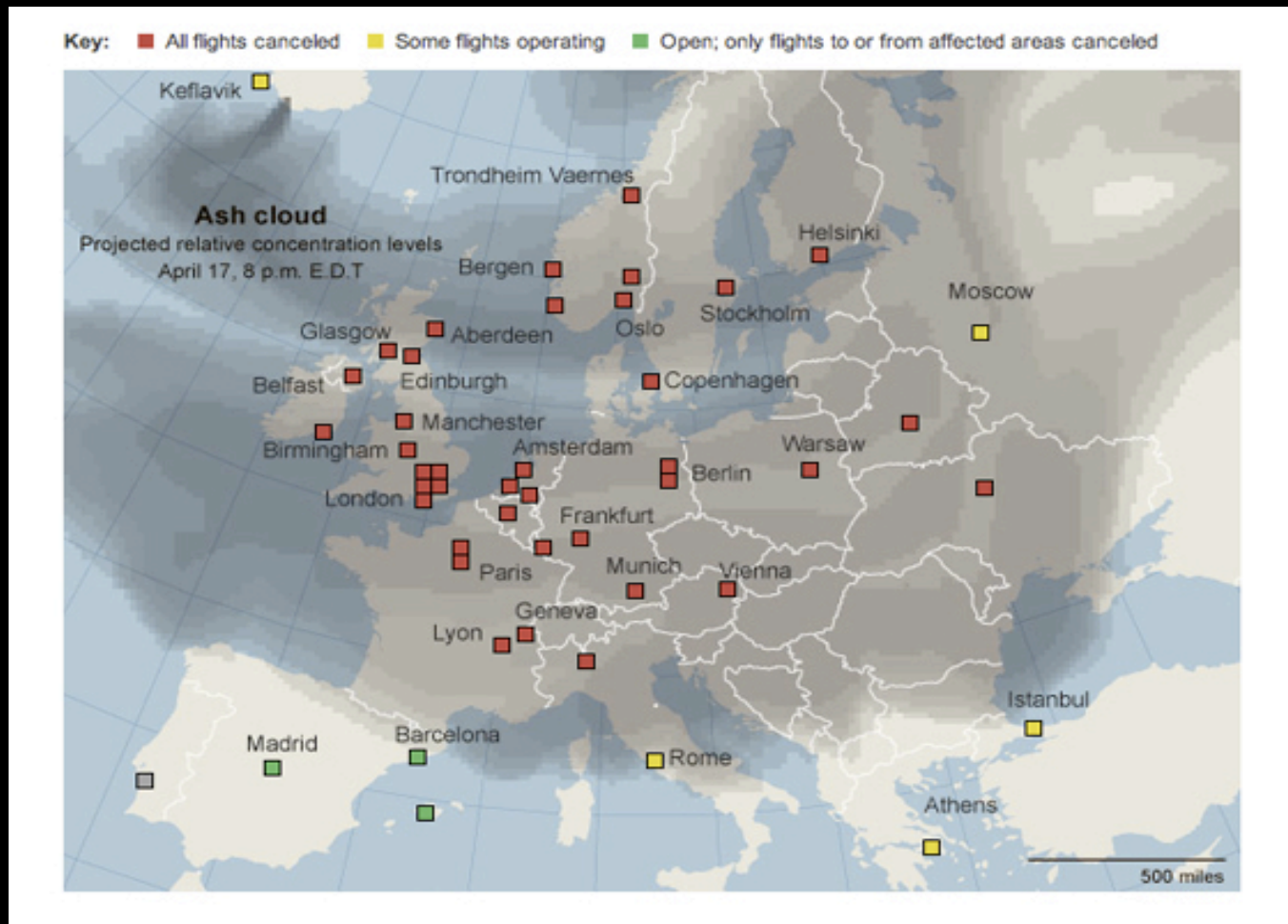
nano-scale filter

Socio-technological systems are difficult or impossible to predict.



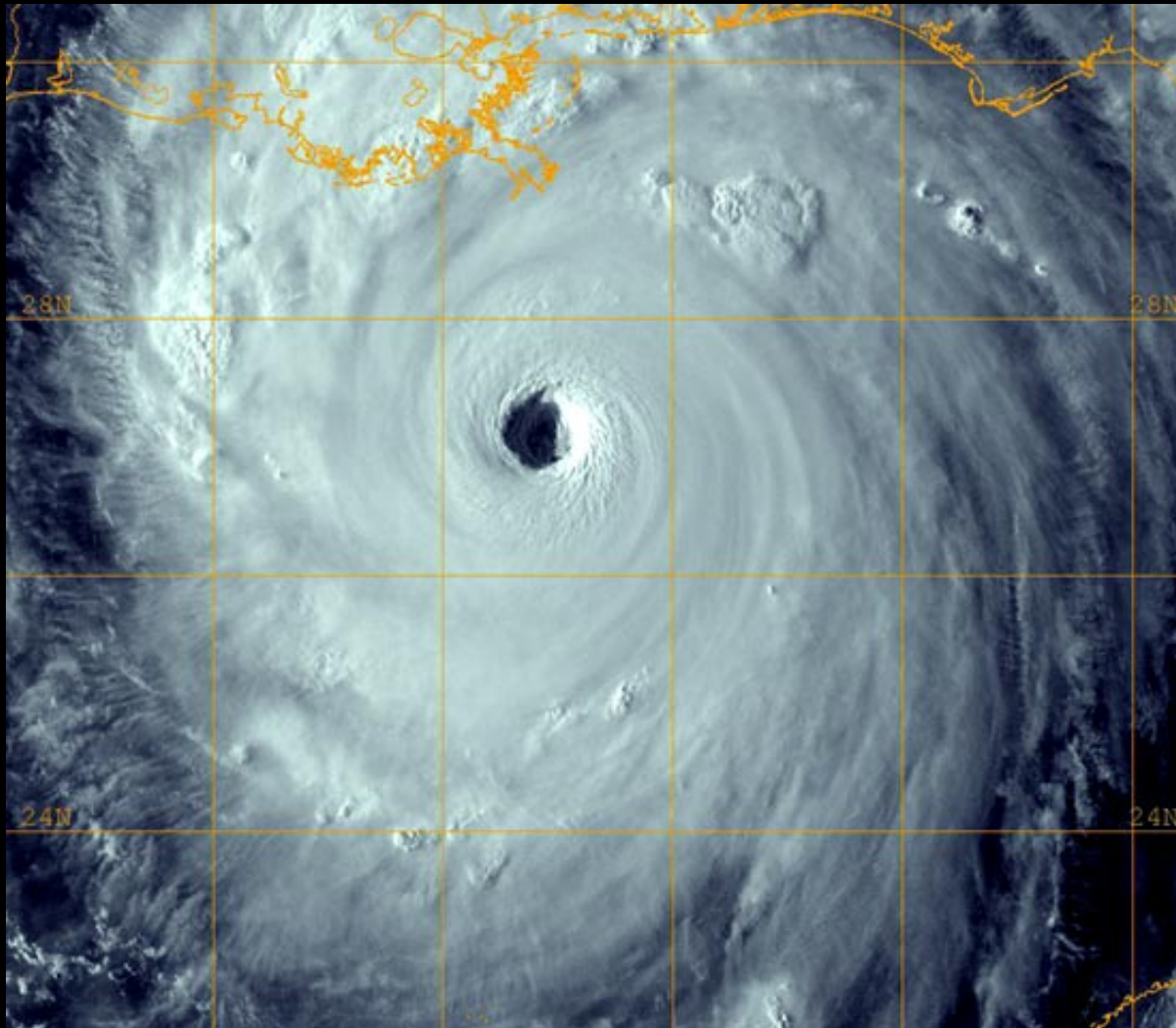
Eyjafjallajokull

Socio-technological systems are difficult or impossible to predict.



Eyjafjallajökull

(and even if we get it right...



Katrina

...we get it wrong).



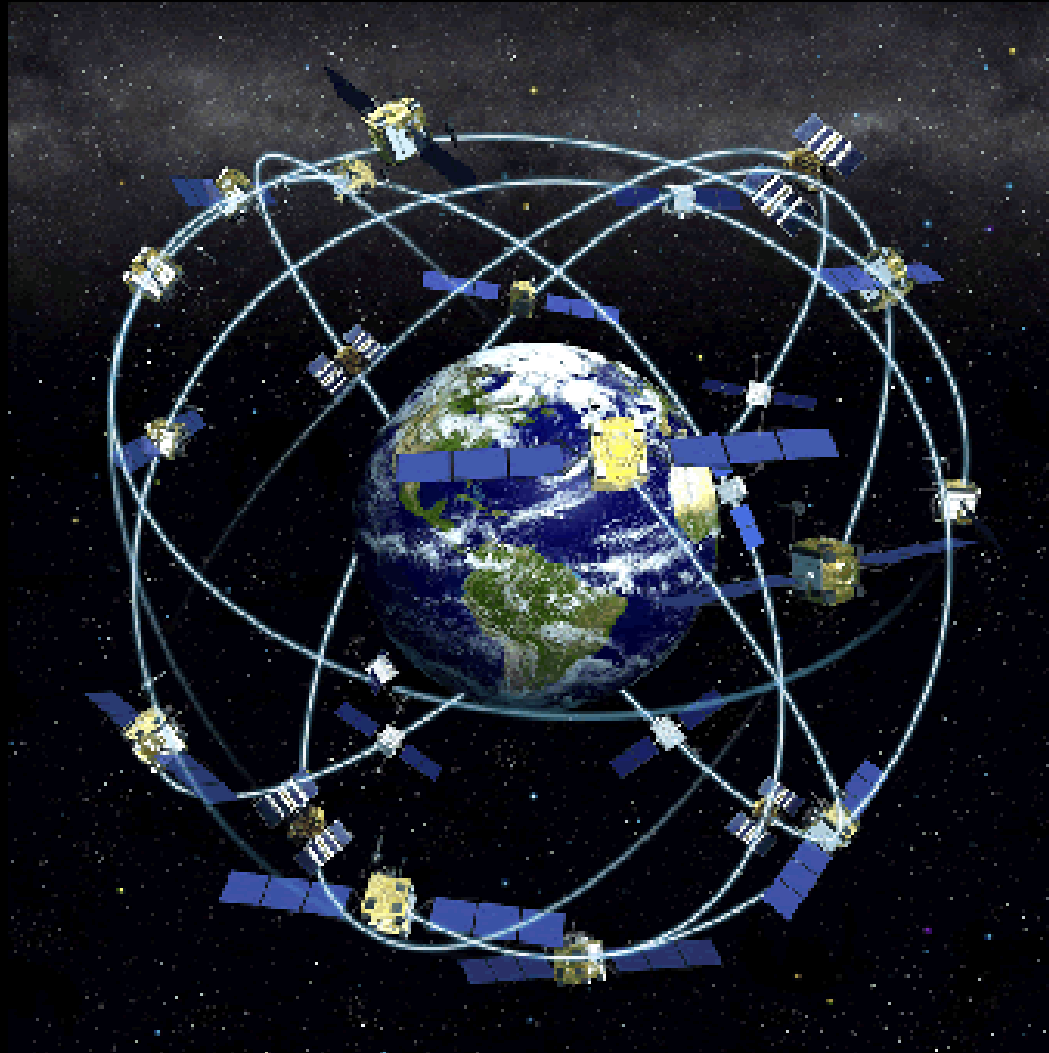
Katrina

Socio-technical change can be
incremental...



software updates

...or disruptive.



global positioning system

New technologies are often controversial...



anti-fracking rally in Pittsburgh, 2011

...and risky.



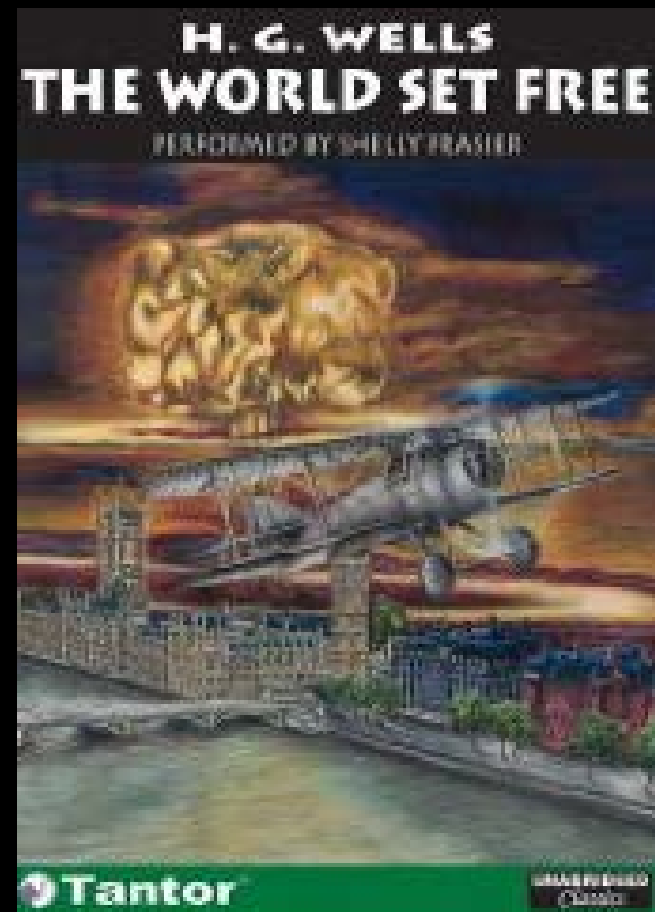
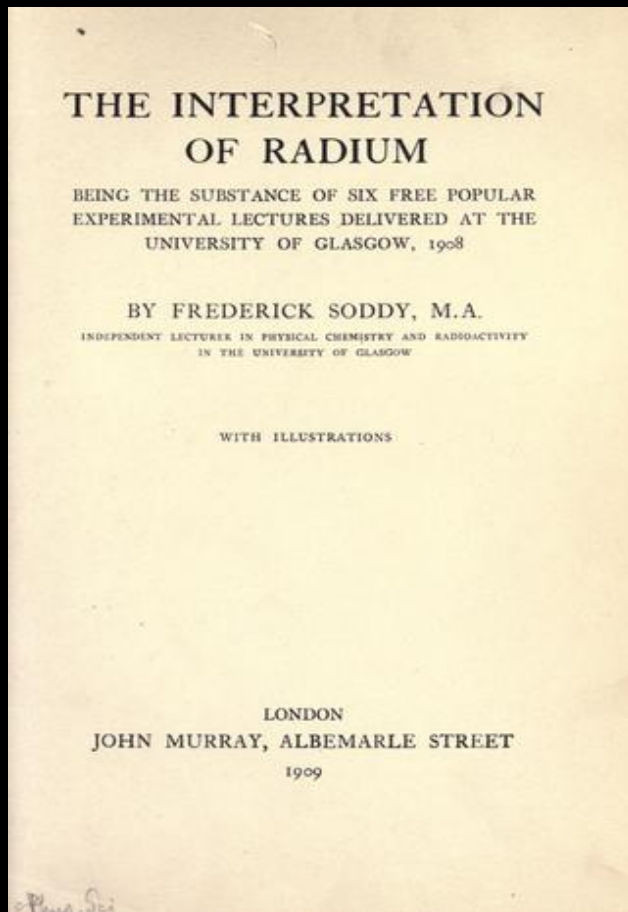
steamship Sultana exploding, killing 1500 (1865)

Our socio-technical imaginations shape our future.



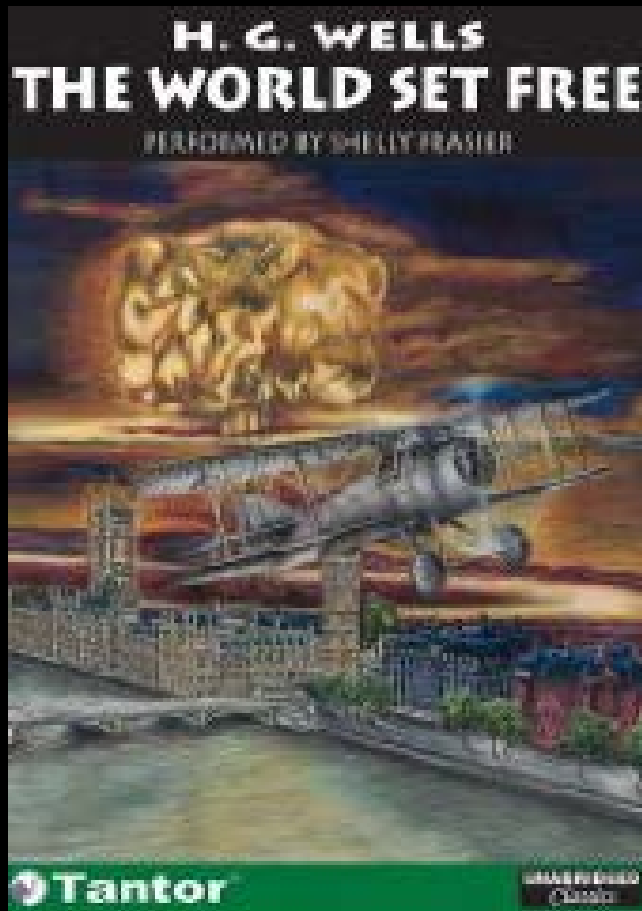
Martin Cooper, cell phone inventor

Our socio-technical imaginations shape our future.



Frederick Soddy and H.G. Wells inspired each other

People play an important role in governing technologies.



Leo Szilard invented, patented chain reaction

People play an important role in governing technologies.



International genetically engineered machine competition, Northwestern U. team

Can we be more reflexive about how we imagine, research, design, build, market, and assess new technologies by asking:

Who are the people who innovate?

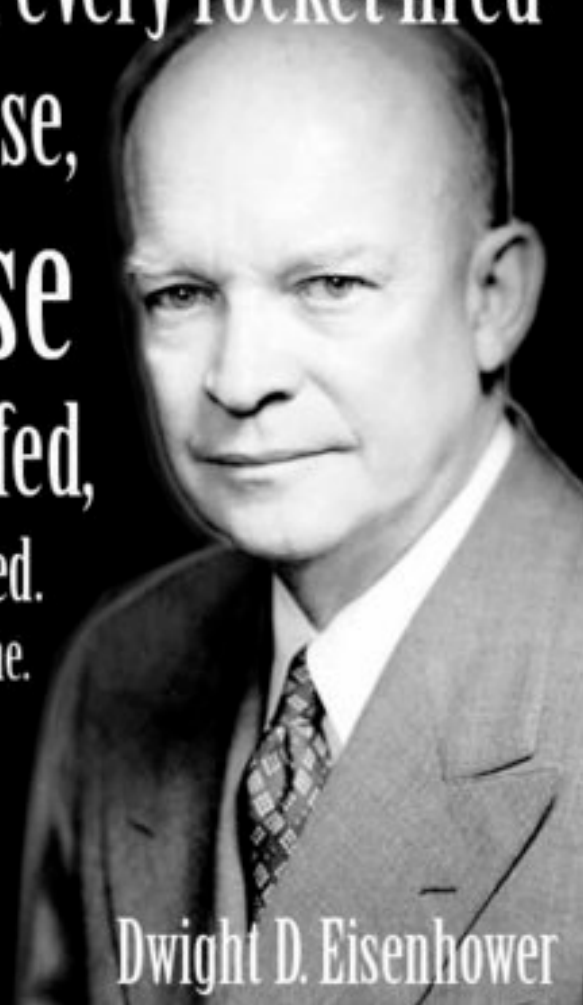
Who are the people subject to innovation?

How do they participate in the governance of technology now?

How might that change in the future(s) we are imagining for them?

How can technology be democratically governed?

Every gun that is made,
every warship launched, every rocket fired
signifies, in the final sense,
a theft from those
who hunger and are not fed,
those who are cold and are not clothed.
This world in arms is not spending money alone.
It is spending the sweat of its laborers,
the genius of its scientists,
the hopes of its children.



Dwight D. Eisenhower