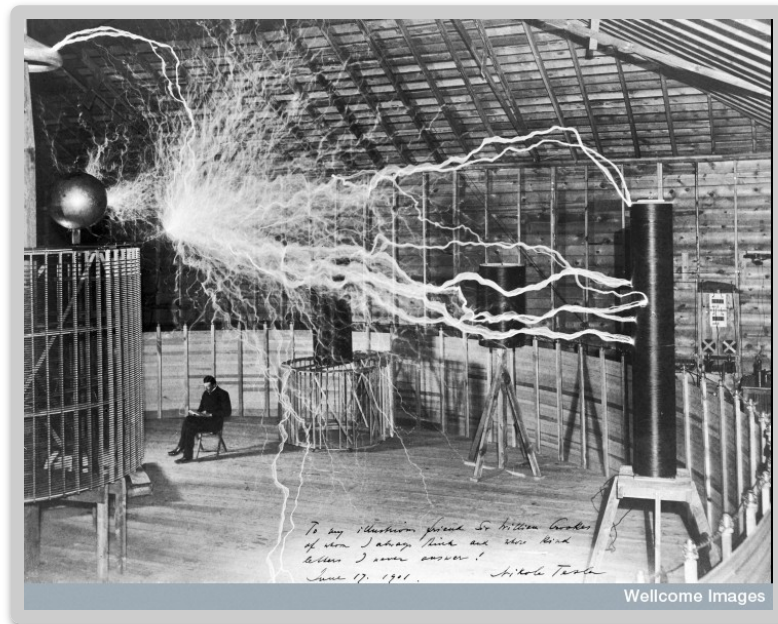


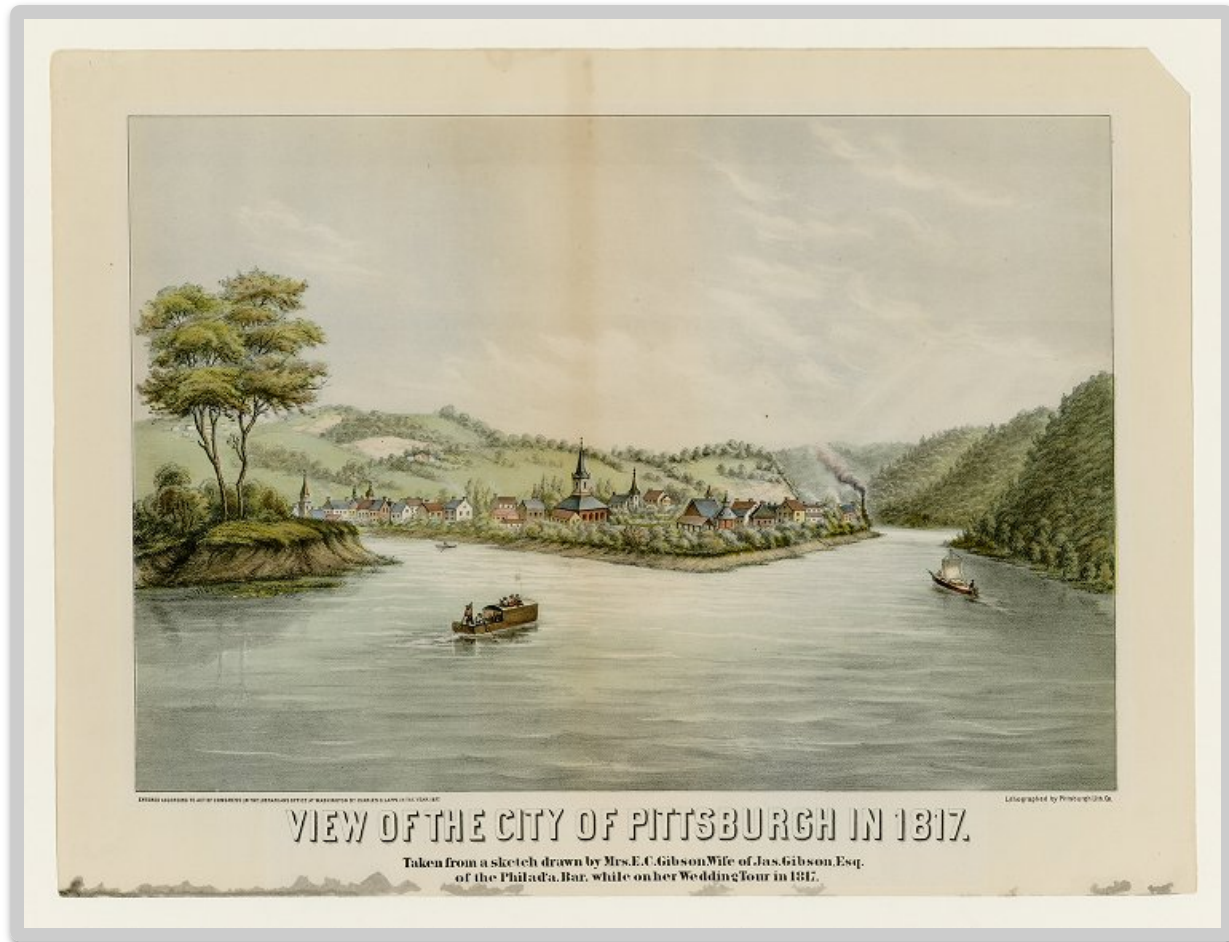
# *Matter and Energy*

## *The Second Scientific Revolution*



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2020



Even though the Scientific Revolution was complete by the end of the 18th Century, science had not yet had much impact on ordinary people's lives.

## *Accomplishments of the Scientific Revolution*

- Development of experimental methods -- formulation and testing of empirical hypotheses.

## *Accomplishments of the Scientific Revolution*

- A comprehensive mathematical model of mechanical and gravitational motion.

## *Accomplishments of the Scientific Revolution*

- Establishment of scientific societies devoted to the development and publication of scientific findings.

## *Accomplishments of the Scientific Revolution*

- A growing body of observational data in many areas as Europeans colonized and explored the rest of the world.

## *Unknowns in 1800*

- What are material things made of?

## *Unknowns in 1800*

- How do chemical reactions work?



## *Unknowns in 1800*

- What is electricity?

## *Unknowns in 1800*

- What is magnetism?

## *Unknowns in 1800*

- What is the difference between animate and inanimate things?

## *Unknowns in 1800*

- What is heat and why does it make some processes happen faster?

## *Unknowns in 1800*

These questions would all be answered in the 19th Century with the development of scientific understanding of the material world.

The result...

# *The Industrial Revolution*



*Pittsburgh 1900*

Scientific understanding of matter and energy would transform the world as never before in less than a century.







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