



Scientific Bibliographic Consideration - I

**R. Tamay Basagac Gül
DVM, PhD**



What is Science?

- Science (Latin: scientia: “knowledge” or “knowing”) is the effort to discover, and increase human understanding of how the physical world works. (Wikipedia)
- Any system of knowledge that is concerned with the physical world and its phenomena and that entails unbiased observations and systematic experimentation. (Encyclopaedia Britannica)
- Science is the knowledge gained from using observations and experiments to describe and explain the world around us.
- Science is a system of acquiring knowledge based on the scientific method.

What is Science?

True or *False*

1. Science is concerned with understanding how nature and the physical world work.
2. Science can prove anything, solve any problem, or answer any question.
3. Any study done carefully and based on observation is scientific.
4. Science can be done poorly.
5. Anything done scientifically can be relied upon to be accurate and reliable.
6. Different scientists may get different solutions to the same problem.
7. Knowledge of what science is, what it can and cannot do, and how it works, is important for all people.



<https://nwspiritism.com/spiritist-knowledge/our-physical-world-is-actually-created-by-thought/>

Science is concerned with understanding how nature and the physical world work.

True

Science is a process by which we try to understand how the natural and physical world works and how it came to be



Science can prove anything,
solve any problem or answer any
question.

False

<https://libguides.ncirl.ie/examsguide/shortanswerquestions>

- Science actually attempts to disprove ideas (hypotheses).
- Science is limited strictly to solving problems about the physical and natural world.
- Explanations based on supernatural forces, values or ethics can never be disproved and thus do not fall under the realm of science.

Any study done carefully and based on observation is scientific.



False

- Science must follow certain rules.
- The rules of science make the scientific process as objective as is possible.

Objective = Not influenced by feelings, interests and prejudices; UNBIASED

Subjective = Influenced by feelings, interests and prejudices; BIASED

Science can be done poorly.

True

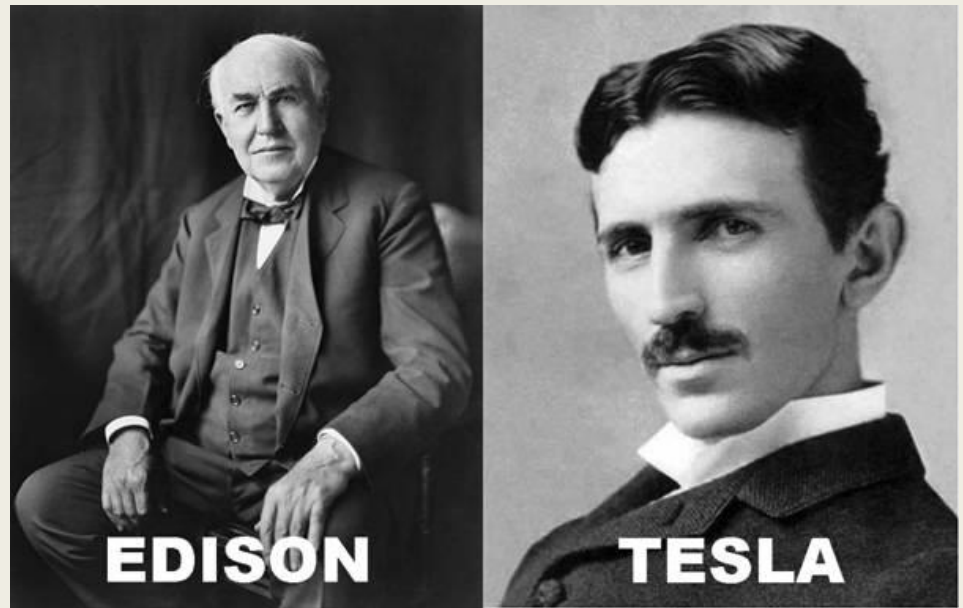
Anything done scientifically can be relied upon to
be accurate and reliable.

False

- Science can be done poorly, just like any other human endeavor.
- Quality control mechanisms in science increase the reliability of its product.

Different scientists
may get different
solutions to the same
problem.

True



<http://www.edisonmuckers.org/edison-versus-tesla/>

- Results can be influenced by the race, gender, nationality, religion, politics or economic interests of the scientist.
- Sampling or measurement bias can result in different solutions to the same problem.

Knowledge of what science is, what it can and cannot do, and how it works, is important for all people.


True

People need to be able to evaluate scientific information in order to make informed decisions about:

- Health care
- Environmental issues
- Technological advances
- Public health issues

Sometimes I look at myself
in the mirror, and I wonder:



How the  did I ever
become this awesome?

How do we know
what we think we
know?

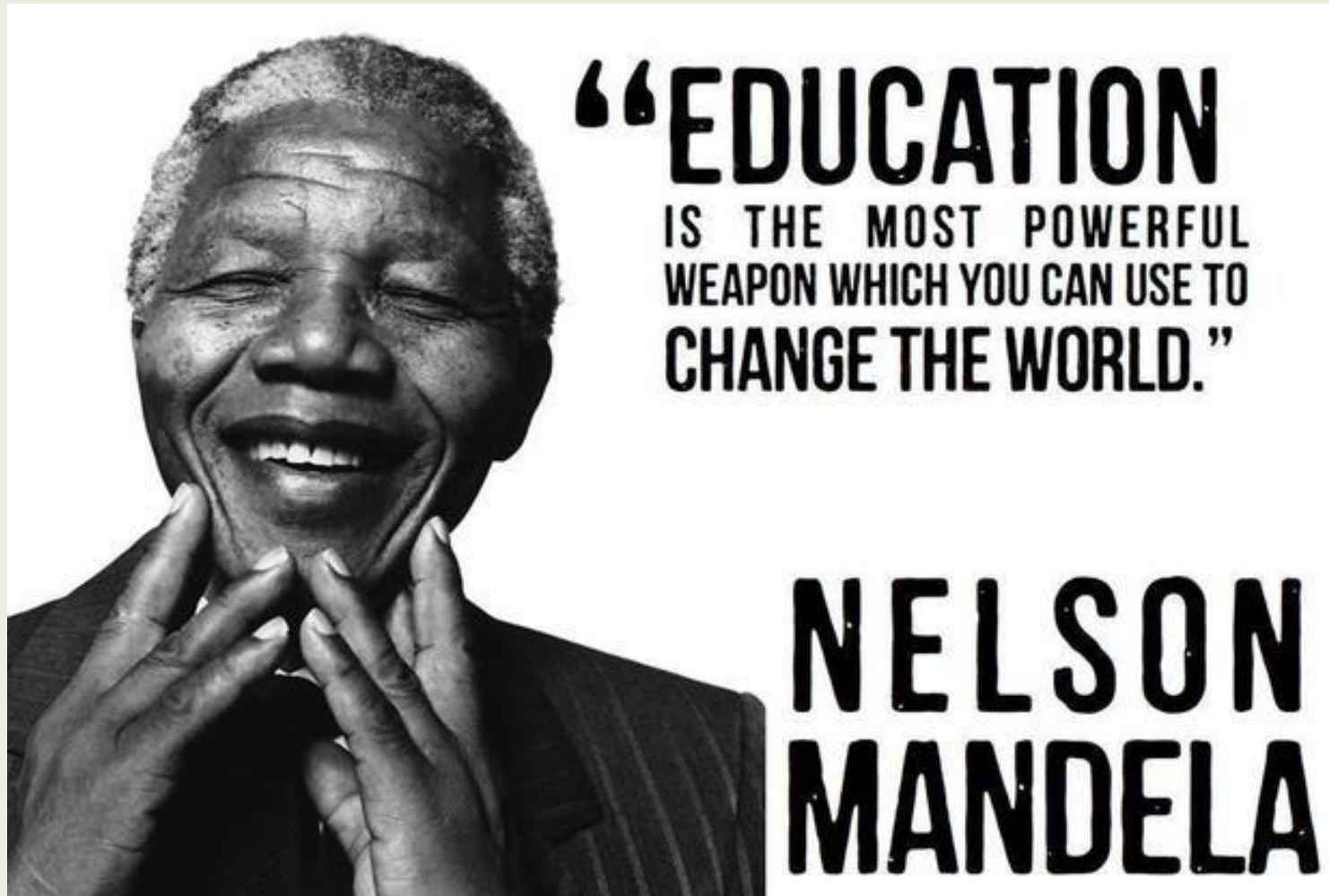
There are some resources for **acquiring knowledge**

Cultural resources



<https://www.londonschool.com/lsc/resources/blog/brazil-culture-quiz-how-much-do-you-know/>

Educational resources



<http://www.voicesofyouth.org/en/posts/education-for-all-when-knowledge-is-power-1>

Religious sources



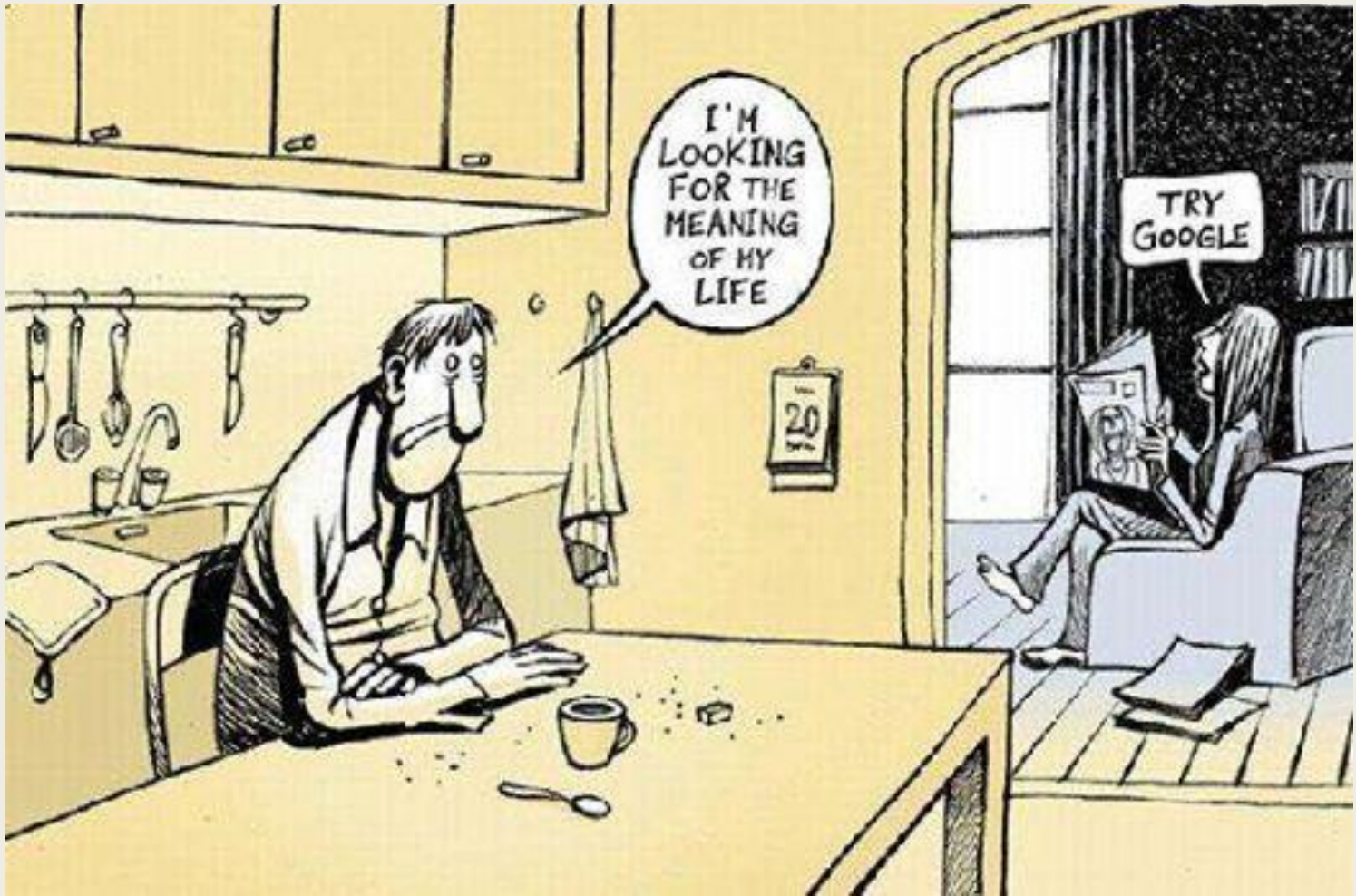
<https://pixabay.com/tr/ke%C5%9Fi%C5%9F-din-rahipler-budizm-inan%C3%A7-888353/>

Personal experiential knowledge and knowledge based on intuition



Scientific resources





<https://michael.siteappdev.com/google-knows-everything/>

According to another classification

■ **Primary resources**

- books
- periodicals
- statistical data
- manuscripts
- surveys
- speeches
- biographies/autobiographies, diaries, oral histories
- interviews
- works of art and literature
- research reports
- government documents
- computer programs
- original documents (birth certificates, trial transcripts...) etc.

■ **Secondary resources**

- books
- journal and magazine articles
- encyclopedias
- dictionaries
- handbooks
- periodical indexes, etc.

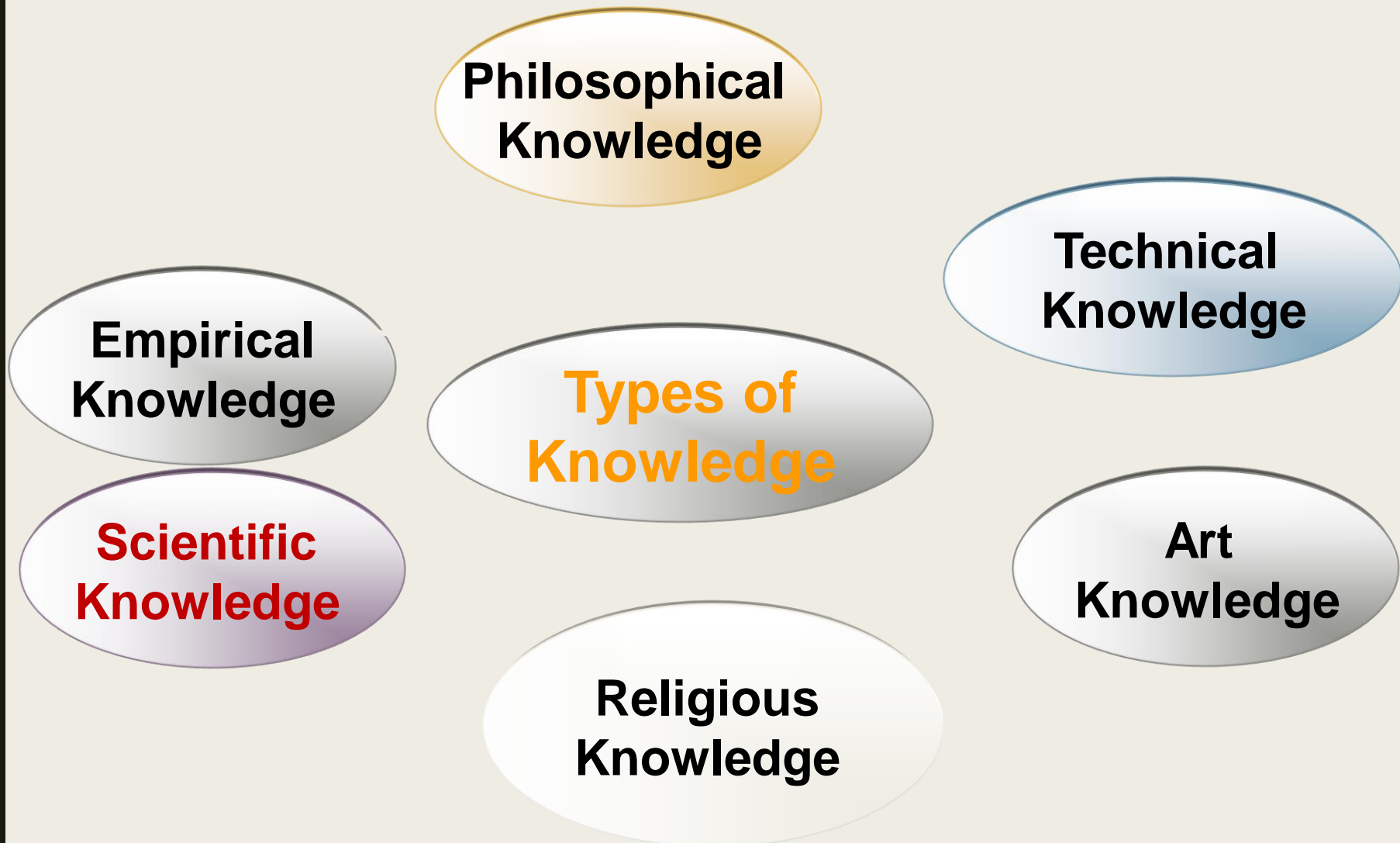
Primary data

- Real time
- Sure about the sources
- Can answer research question.
- Cost and time
- Can avoid bias
- More flexible

Secondary data

- Past data
- Not sure about sources
- Refining the research problem
- Cheap and no time
- Bias can't be ruled out
- Less flexible

Knowledge is the product which is formed as a result of the connection between human and object.



**Is there any difference
between empirical
and scientific
knowledge?**



WEB LINKS for RESOURCES

<https://quizlet.com/13826130/chapter-1-truefalse-flash-cards/>

https://webcache.googleusercontent.com/search?q=cache:IMZxQYnMDWcJ:https://www.pwrc.usgs.gov/contaminants-online/pages/toolsteachers/TTfiles/lesson1/Presentation_1.ppt+&cd=5&hl=tr&ct=clnk&gl=tr

https://www.dersimiz.com/ders_notlari/Bilgi-ve-Bilgi-Turleri-oku-21696.html

http://www.gtu.edu.tr/Files/Haberler_78_78/TTO_Egitimi/linkler/sait_eren_san_2.pdf