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# Practicing Critical Thinking (CT) in the Social Sciences

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# Main Points

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- Outcome
- Video
- Definitions of CT
- Boundaries of CT
- Origin of CT
- Historical-political Context (XVII, XVIII and XIX centuries)
- CT in academic contexts
- Epistemology and theories

# Outcome

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By the end of this session today I expect that this group will:

- Understand the principles of **CRITICAL THINKING** as a **SKILL** to be applied to Social Sciences theory and method.

# DISCIPLINES

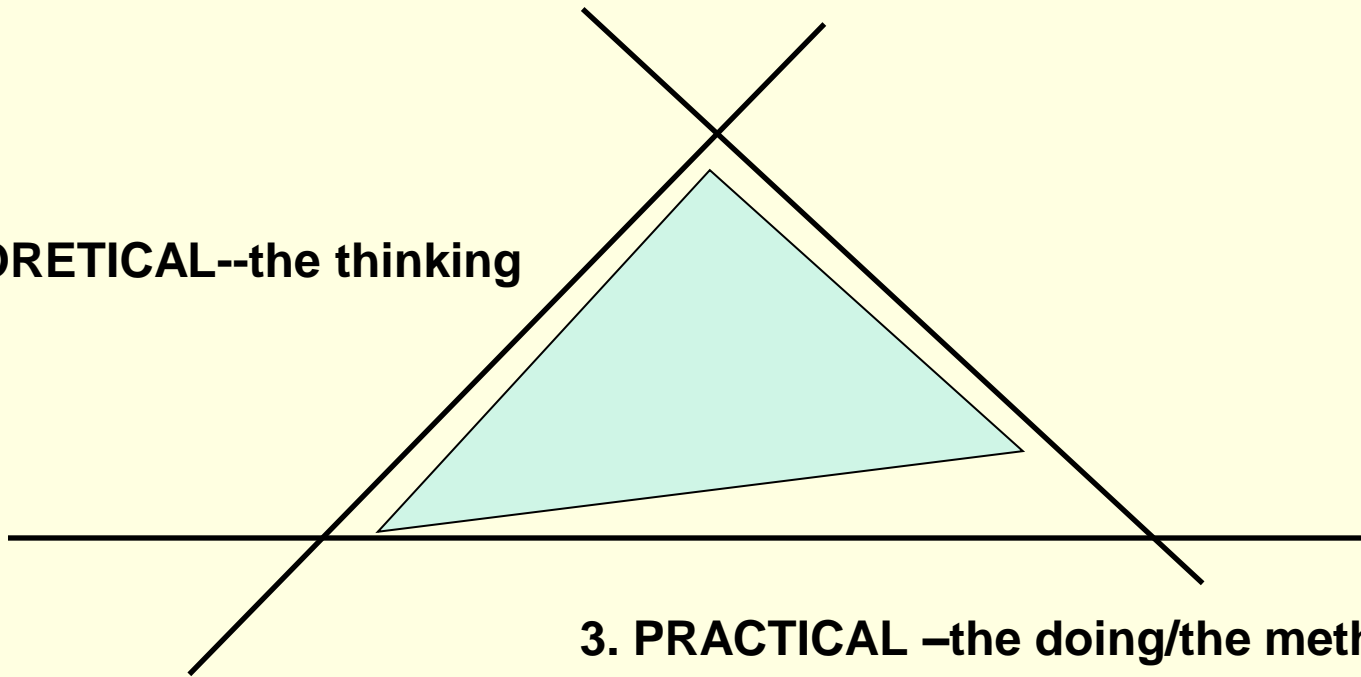
| <b>Economics</b>  | <b>Health Sciences</b>   |
|---|--|
| Health economics<br>Environmental economics<br>Development economics<br>Political economy | Biomedicine<br>Nursing<br>Physiotherapy<br>Pharmacy<br>Nutrition |

# Key three dimensions to success when practicing critical thinking

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1. PHILOSOPHICAL -- the critical

2. THEORETICAL--the thinking



3. PRACTICAL --the doing/the methodological

# The power of vulnerability

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<http://www.youtube.com/watch?v=iCvmsMzIF7o>

# Critical Thinking

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- Creative thinking/
  - lateral thinking/
    - problem-solving/
      - decision-making/
        - reasoning

# Critical Thinking (CT) Definitions

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- CT is a continuous process which involves distancing and reflecting
- CT is an activity driven in essence by the achievement of results
- CT is an abstract process of interrogating knowledge per se rather than an instrumental activity
- CT is a process involving enactive activities



# CT Boundaries

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- Is CT and educational need in an information overload-society?
- Does CT help people to be responsive to fast change?
- Why is CT important in a field like social sciences today?
- What is the relationship between CT and the knowledge-production society?

# Communalities across CT curricula

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- Meta-cognition (thinking about thinking)
- Knowledge (use/production/ownership)
- Assumptions (nothing is given)
- Evidence      scientific and non-scientific forms  
of evidence)

# Origin of CT

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- Greek and Roman culture
- Karl Marx & Frederic Engels
- Frankfurt School (XX century)
- India and China?

# Critical Thinking (XVII century)

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- Francis Bacon; 'the advancement of learning' 1605 (false idols)
  - Misuse of words
  - Blind acceptance of convention
  - Self delusion
  - Poor instruction
  
- Thomas Moore 'Utopia' 1516
  - Private property

# Enlightenment/Age of Reason

(XVII century)

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- Descartes 'Rules for the Direction of the Mind'  
1628
- Diderot
- Rousseau
  - How the physical and social worlds work?

# XVII and XVIII Centuries

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- Social orders
  - American revolution 1776
  - French revolution 1789
- Human mind (reason)
- Machiavelli
- Voltaire
- Kant

# XIX Century

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- The industrial era (nineteenth century)
  - Marx and Engels
    - Economic conditions of the workers
    - Mode of production: Capitalist society/commodity
    - Status quo and class consciousness
    - False consciousness (alienation)

# Early XX century

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- John Dewey
- “CT was an element of a broader reflective framework involving assessment, scrutiny and conclusion; a process that should be followed if effective judgements were to be made”.
- CT essential tool for the furtherance of meaningful democracies.



# Critical Thinking in Academic Contexts

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- CT is a complex process of constructing and delivering arguments (reasons/logo/logoi) or judgements that are characterised by being sound, sensible, rational, valid and **LOGIC**.

- CT in the Social Sciences is not about

- ONE TRUTH or
- ONE RIGHT ANSWER.

# Arguments

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- “**Quantum physics** has identified many more dimensions than height, width, depth and time, which people are familiar with. Such **research** can take a long time. Discoveries have also been made on other aspects of the **time-space** continuum”.
- “I like that picture. The *colours* create the powerful effect of a sunset, which is pleasant to look at. The figures are *interesting* and very *well drawn*. It **is a good picture**”.

# Thinking/Reasoning Methods

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- How many thinking/reasoning methods do we use in academic thinking

# Deductive Thinking

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**All** human beings are mortal

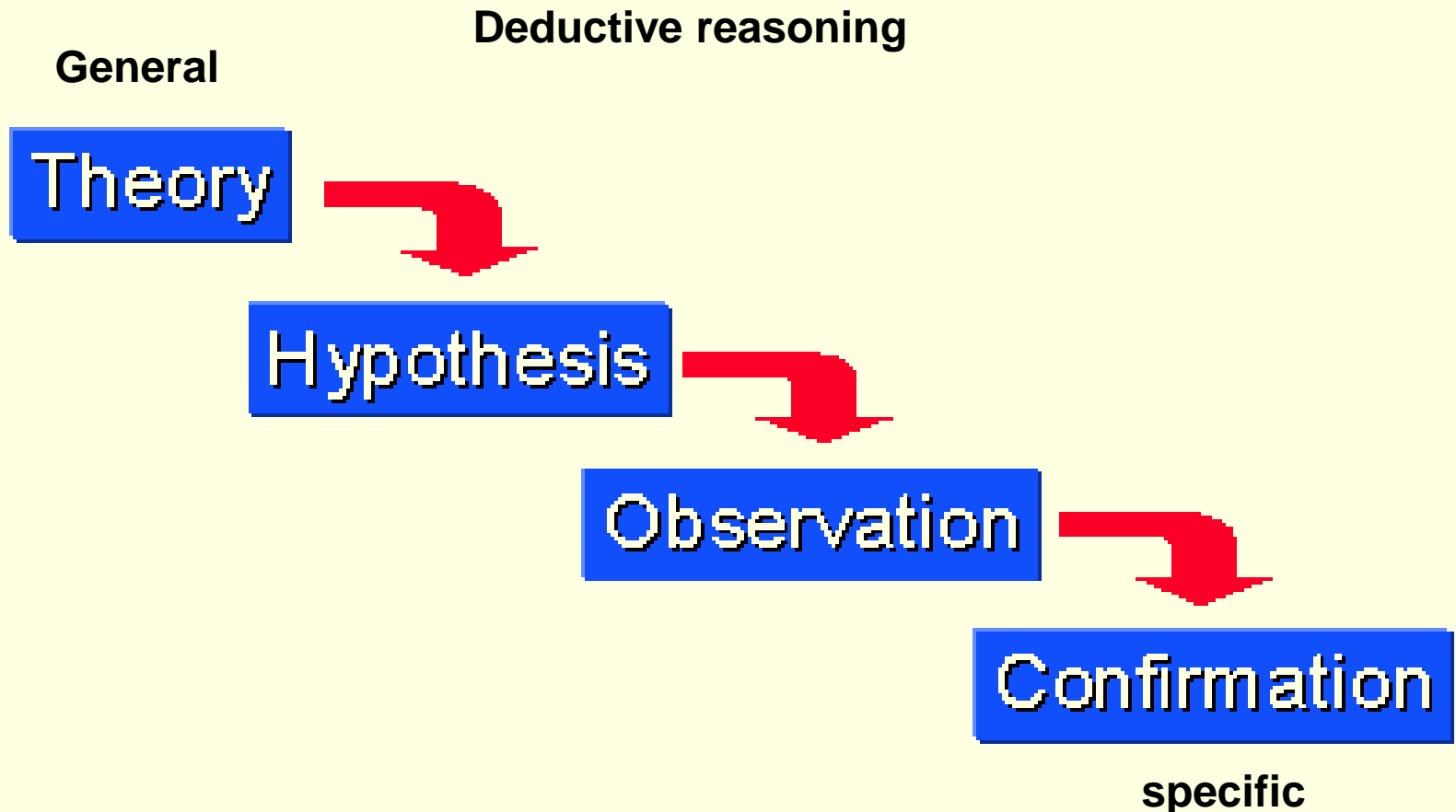
Socrates is a human being

**Socrates is mortal**

Aristotle (384 – 322 BC)

# Deductive Reasoning

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# Inductive Thinking

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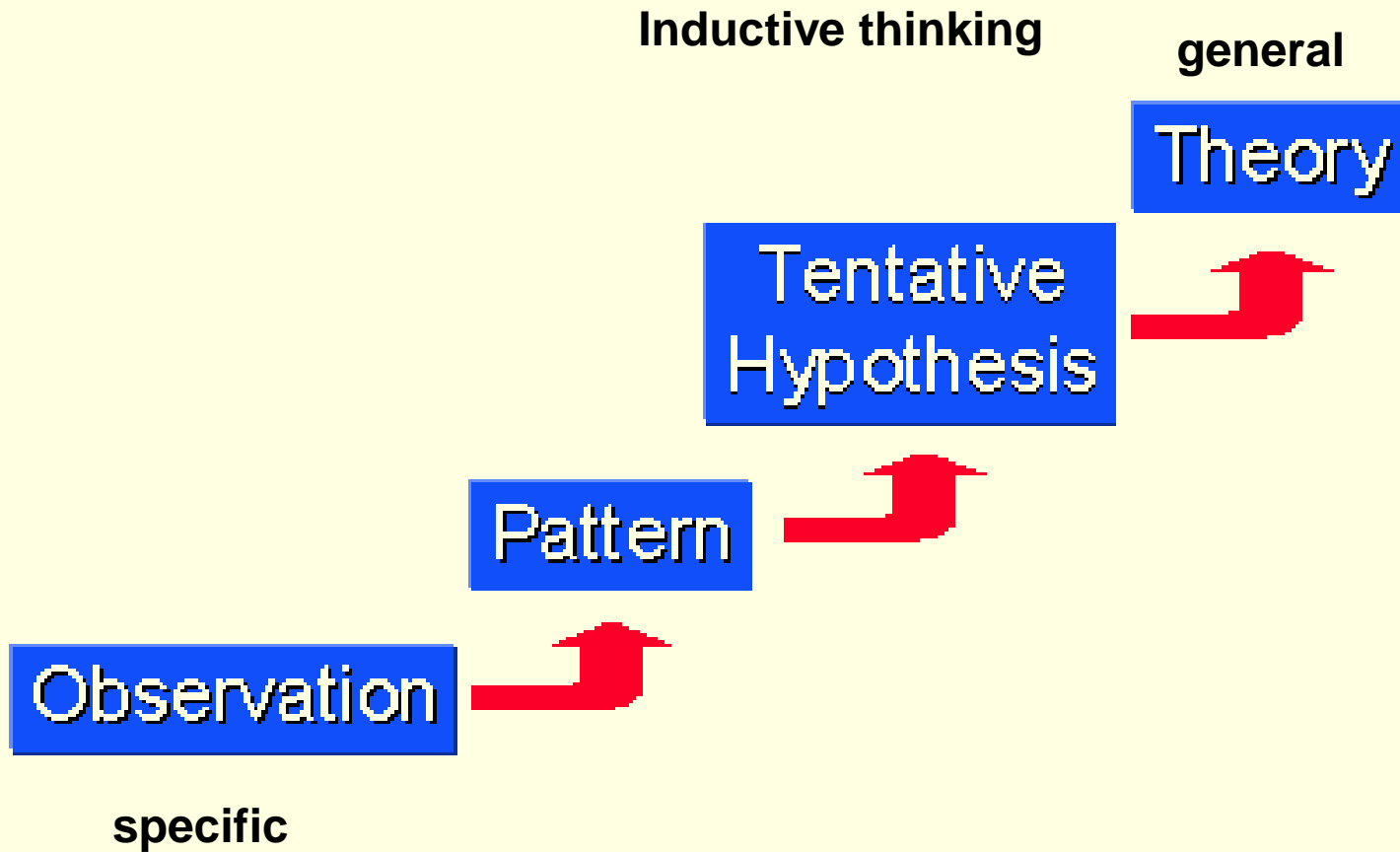
**This** piece of ice is cold

All ice I have ever touched is cold

**All ice is cold**

Francis Bacon (1561 – 1626)

# Inductive Reasoning



# Syllogism

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- **1.** *Logic* A form of deductive reasoning consisting of a major premise, a minor premise, and a conclusion; for example, *All humans are mortal*, the major premise, *I am a human*, the minor premise, *therefore, I am mortal*, the conclusion.
- **2.** Reasoning from the general to the specific; deduction.



# Arguments and Theory

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- In the Social Sciences in general, and in the health area in particular, many arguments are based on theories. However, not all arguments are theories.

- Is it the same in economics?

- Thus, an important way of practicing CT in the area of health studies is to identify the theoretical position from which an author speaks or writes.

# Theory and Research

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- Theory: “It is a set of ideas/arguments that helps to explain WHY something happens or happened in a particular way, and to predict likely outcomes in the future” (Cottrell, 2005)
- Research: the testing or refining of a theory with the purpose of providing more useful explanations.

# Generic Types of Theory (Logo/i= reason)

Psycho-**logy** --Mind



Socio-**logy** --society



Health –health and illness



Anthropo-**logy** --Culture

Economy –exchange and transactions



Philosophy --Knowledge

History – time

# To think

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WHO is able to THINK?

# Who?

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- Men?
- Women?
- Children?
- People of all cultures?
  - Old people?
  - Human beings!!
  
- YES!!!!

# To think

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What is the RESULT or CONCRETE  
PRODUCT of HUMAN THINKING?

To think

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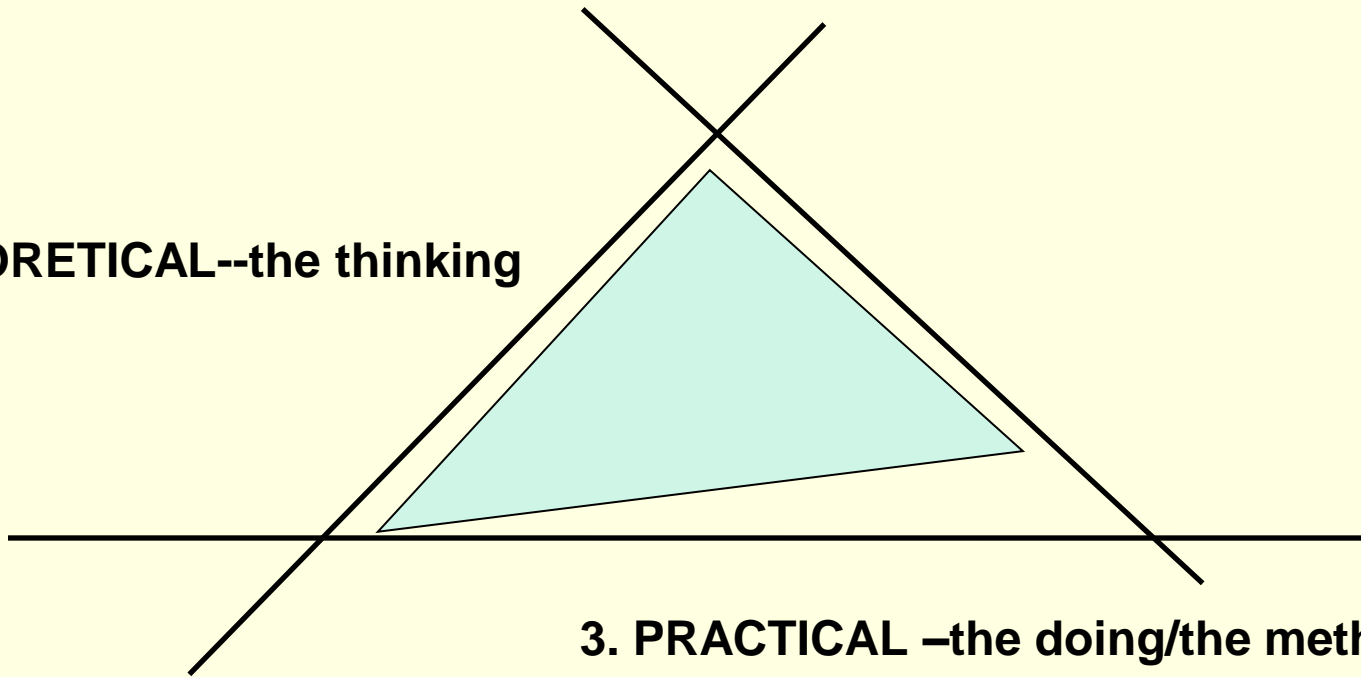
**KNOWLEDGE**

# Key three dimensions to success when practicing critical thinking

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1. PHILOSOPHICAL -- the critical

2. THEORETICAL--the thinking



3. PRACTICAL --the doing/the methodological



# Philosophy --Epistemology

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The study of the nature and grounds of **KNOWLEDGE** especially with reference to its limits and validity (how do we know?).

**S**



**O**

The THINKING Subject  
Human beings  
The knower  
The researcher

The OBJECT  
The World/Reality  
The known  
The research

# Principles

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- Theories underpin the way researchers collect and interpret evidence
- Theories are based on different ways of thinking about reality
- All theories have an epistemological base

# DISCIPLINES

| <b>Economics</b>   | <b>Health Sciences</b>   |
|--|--|
| Health economics<br>Environmental economics<br>Development economics | Biomedicine<br>Nursing<br>Physiotherapy<br>Pharmacy<br>Nutrition |

# Theories and Epistemologies

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- ***Modern science***

- ***(last 300 years)***

- **Positivism**

- **(Functionalism)**

- ***Post-positivist theories***

- **Phenomenological theories**

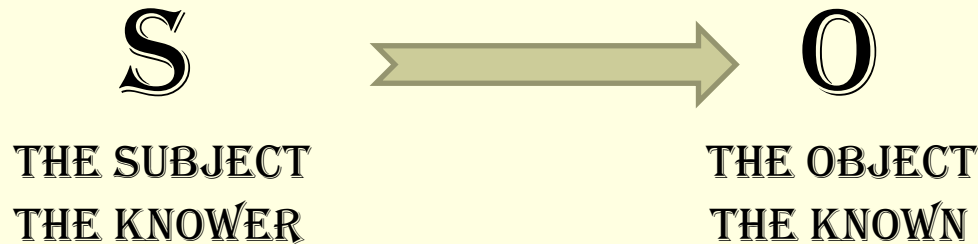
- **Critical social theory**

- **Social Constructionism**

- **Postmodernism/post-structuralism**

# Positivism

## Positivist theories (Modern Science)



1. The theory that knowledge can be acquired only through direct observation and experimentation, and not through metaphysics or theology.
2. The truth exists and can be measured
3. Science is only one, so physical sciences equal to social sciences
4. Neutral valuation (objectivity)

# Basic Assumptions of Science

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- True, physical universe exists
- Universe is primarily orderly
- The principles that define the functioning of the universe can be discovered
- All ideas are tentative, potentially changed by new information



**Human Beings?**



**Social Sciences/Humanities**

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- <http://www.jstor.org/discover/10.2307/4224458?uid=3738256&uid=2129&uid=2&uid=70&uid=4&sid=56049507993>



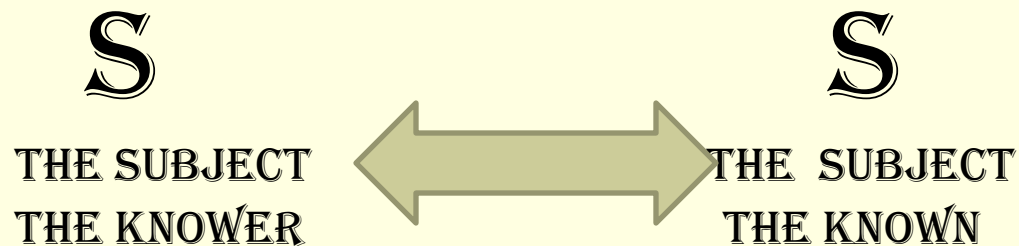
# **Post –Positivist theories**





# Social Constructionist Theories

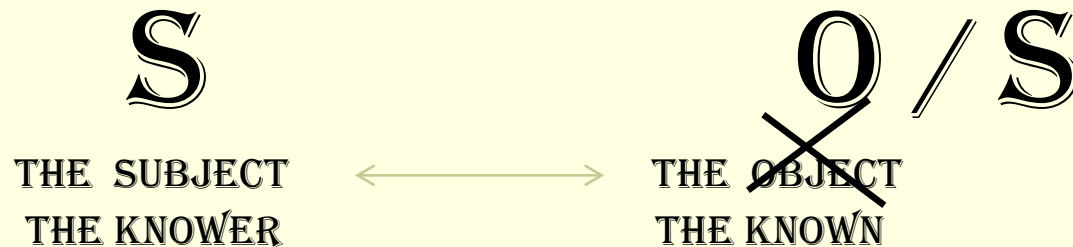
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1. Reality is a SOCIAL CONSTRUCT
2. Knowledge is a product of symbolic interaction (language) within human beings
3. Inter-subjectivity
4. TRUTHS are SOCIAL CONSTRUCTS
5. TRUTH and POWER ARE RELATED

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- <http://xenia.media.mit.edu/~acs/chapter1.html>
  - <http://scholarworks.umass.edu/dissertations/AI3215753/>
  - <http://www.tandfonline.com/doi/abs/10.1080/10427719700000059>

# Phenomenological theories



1. The description of CONSCIOUS EXPERIENCE in all its varieties without reference to the question of whether what is experienced is OBJECTIVELY real
2. Things as they are PERCEIVED as opposed to things as they ARE
3. Inter-subjectivity
4. The TRUTH is INTERPRETATION

- [http://books.google.co.uk/books?hl=en&lr=&id=SidTcrvLtrQC&oi=fnd&pg=PR9&dq=phenomenological+theory+in+economics&ots=0CJs-VyxXr&sig=U7JeRus5l39Q2jz3KzCn3N\\_YSdl#v=onepage&q=phenomenological%20theory%20in%20economics&f=false](http://books.google.co.uk/books?hl=en&lr=&id=SidTcrvLtrQC&oi=fnd&pg=PR9&dq=phenomenological+theory+in+economics&ots=0CJs-VyxXr&sig=U7JeRus5l39Q2jz3KzCn3N_YSdl#v=onepage&q=phenomenological%20theory%20in%20economics&f=false)

# Critical theories (for example, feminist theory, Marxist

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S

THE SUBJECT  
THE KNOWER

S

THE SUBJECT  
THE KNOWER

- Critique of Society and Power
- Power (multiplicity of force relations in society)
- Use of historical, political cultural arguments
- Contesting
- Emancipatory e.g., Action Research

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- <http://www.jstor.org/discover/10.2307/20159091?uid=3738256&uid=2&uid=4&sid=56049722453>
  - <http://www.tandfonline.com/doi/abs/10.1080/0141192970230302>
  - <http://press.princeton.edu/titles/5064.html>

# Postmodernism

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- It avoids large-scale macro analysis (the nursing process in the 80's) (incredulity towards meta-narratives (story-telling)).
- Language can be used to create a “world”
- It is not what follows from modernism, they can co-exist together
- Reject the ideas that human beings have access to “objective” standpoints that enable judgement to be made about the truth or falsity of arguments (science, truth, authority)

# Postmodernism and post-structuralism

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- Modernist approach is to assume that the problems faced by human being can be solved primarily by the application of rational, scientific thinking (science and control).
- Human beings are stable, coherent, knowable selves that are rational and autonomous.
- Objectivity
- Science is universal
- Language is also a rational device
- Evidence based knowledge





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- <http://press.princeton.edu/titles/7609.html>
  - <http://www.allaboutworldview.org/postmodern-economics.htm>
  - <http://www.tandfonline.com/doi/pdf/10.1080/08935699108657965>

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- [http://books.google.co.uk/books?hl=en&lr=&id=\\_ZujWW52n9cC&oi=fnd&pg=PA213&dq=poststructuralism++and+economics&ots=Olm2vyPoqm&sig=HfPNNoySBtXKkYWs4m73BFUxyAc#v=onepage&q=poststructuralism%20%20and%20economics&f=false](http://books.google.co.uk/books?hl=en&lr=&id=_ZujWW52n9cC&oi=fnd&pg=PA213&dq=poststructuralism++and+economics&ots=Olm2vyPoqm&sig=HfPNNoySBtXKkYWs4m73BFUxyAc#v=onepage&q=poststructuralism%20%20and%20economics&f=false)

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- <http://books.google.co.uk/books?id=P6F4revHlpQC&printsec=frontcover&dq=the+importance+of+social+theories+in++economics&hl=en&sa=X&ei=DhiNT4rSBsjRrQfk0oSycQ&ved=0CDgQ6AEwAA#v=onepage&q=the%20importance%20of%20social%20theories%20in%20%20economics&f=false>

# The importance of theories in H&SC

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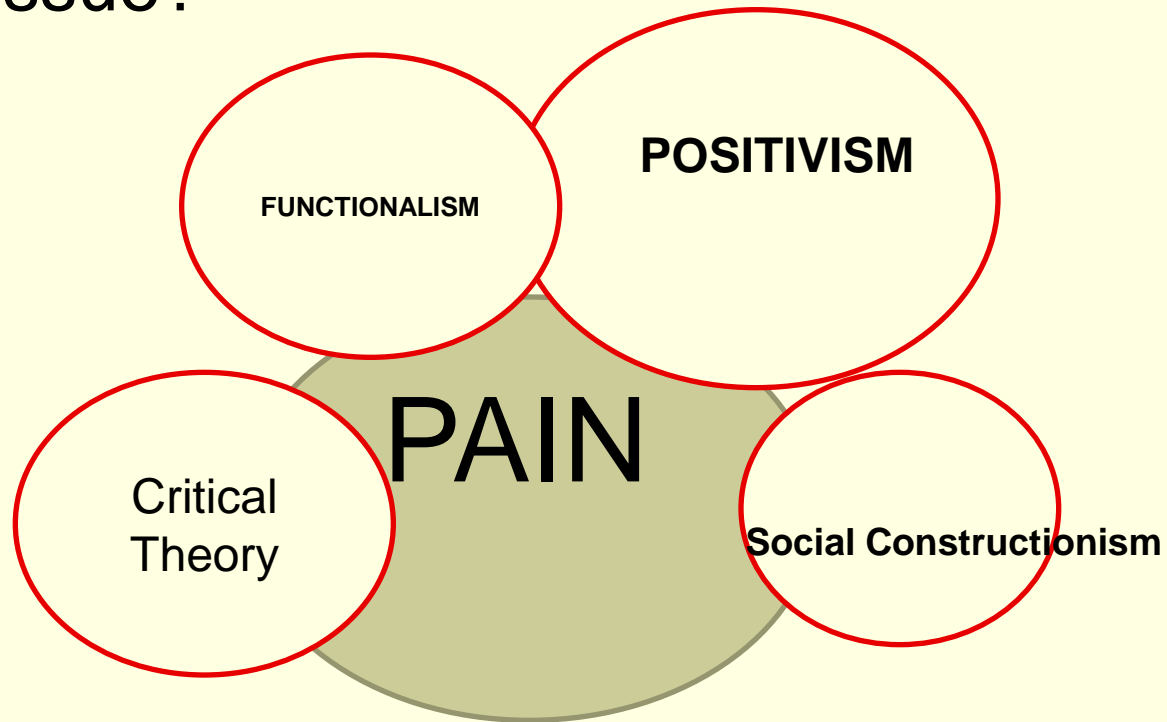
- Theories

**ARTICLE**

# Activity

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- Your issue?



# Positivism (functionalism) & PAIN

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- The observer and the observed (microscope)
- Pain as neurological reactions to visibly damaged tissue      DESCARTES
- Pain does provide a direct, reliable evidence for the observer
- Measurement (age, sex, gender)
- Parts and      (whole)
- subjective
- ambiguities

# (Functionalism)

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- It is a type of positivist theory
- Society as a single ORGANISM in which every part functions to the benefit of every other part.
  - Doctors.....Patients
  - Benign.....sick role
- Pain as punishment and as a deterrent (to the deviants)



# Social Constructionism/Phenomenology & PAIN

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- There is not a single view of truth
- Views can be valid in different ways (voices)
- Horizon
- People construct evidence through their experience (including the observer)
- Pain up to certain extent is personal and conveys complex meanings
- How actors make sense of their experiences, how they try to rationalise pain
- Dialogue.....

# Critical theory & PAIN

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- Society is not a well functioning organism
- Conflict is what animates society (power and resources)
- Doctor are partly agents of social control
- It is not and individual problem but a societal problem (poverty)
- Radical politics
- Political change can reduce painful diseases (Cholera)

# Postmodernism & PAIN

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- Dichotomies
- Scepticism “a personal disposition toward doubt or incredulity of facts, persons, or institutions”
- Intensive pain makes the body feel alien
- Pain constricts language and thought

# Conclusion

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- CT is not about replicating “common sense” or “normality.”
- CT is about not taking anything for granted, and in some cases, de-naturalising what is socially constructed by human beings.

Social roles of Men/Women?

Civilised/Primitive cultures?

# Conclusion

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- CT acknowledges that KNOWING (using arguments or reasons) is closely related to POWER –multiplicity of force relations extant within the social body.
- So, CT in the particular case of health studies and economics is about understanding that implicitly or explicitly knowledge creation in the health area happens in a cultural, political, socio-economic, and even, religious context.

# Conclusion

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- CT acknowledges that along reasonable, logical and sound arguments -evidence-, beliefs are also important.

- Gracias!!!!