

## BASIC ASSUMPTIONS OF HUMAN SCIENCE (*RATIONALISM, EMPIRICISM, CRITICISM, INTUITIONISM*) FOR THE DEVELOPMENT OF SCIENCE

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### Abstract

Knowledge is realized is something very valuable, and vice versa, ignorance is a bad thing in human life. However, most do not know in depth what they consider to be knowledge. This article discusses the basic assumptions of human science. First explained Rationalism, Empiricism, Criticism, and Intuitionism. The type of research used in this article is descriptive analytics, this article uses data collection techniques in the form of a literature study to collect data as the main source. This is followed by a description of the various basic assumptions.

**Keywords:** *Rationalism, Emperisism, Criticism, Intisionism*

### INTRODUCTION

The development of science has a positive impact on human life, including facilitating human activities, providing various conveniences, accelerating the process of information and distribution in economic terms, and increasing effectiveness and efficiency in social interaction in society. So the development of science and knowledge can also increase knowledge and insight, improve the quality of education, and much more (Prasetyo, Natsir, & Haryanti, 2022).

Humans naturally love what is called knowledge and vice versa, do not like what is called ignorance. Humans like knowledge because of the existence of reason that is in them, the sense of awe (*thauma*) they have, as well as the problems they have to face, which require knowledge to solve them. Although humans naturally tend to have the knowledge, it does not mean they really know what knowledge really is, the majority will say that knowledge is everything that humans know (Ismunanto, 2017).

Any knowledge related to science always requires assumptions. Assumptions are needed to overcome the widening problem analysis. The more focused the object of study in a field of study, the broader assumptions are required. Assumptions can be said to be the intellectual background of a line of thought. Assumptions can also be interpreted as primitive ideas or supporting ideas needed to support other ideas that will appear in the future (Rais, 2020). Assumptions are needed to write down everything that is implied (Sudiantara, 2020).

Given that knowledge and knowledge are issues that have entered the academic realm. This knowledge is needed to recognize the types of knowledge, and the differences between each type so that it is then useful in developing related knowledge. At first glance regarding science as above, this article specifically aims to discuss the basic assumptions of human science.

### METHOD

The method used in this article is a qualitative approach with a library research approach. Qualitative research is also a type of data collection in the form of words used as data

sources and does not use numbers as research objects. The type of research used is descriptive analytic. As explained above, this article uses data collection techniques in the form of literature studies to collect data as the main source, namely by collecting reference data that is in accordance with the material such as philosophy books.

## RESULT AND DISCUSSION

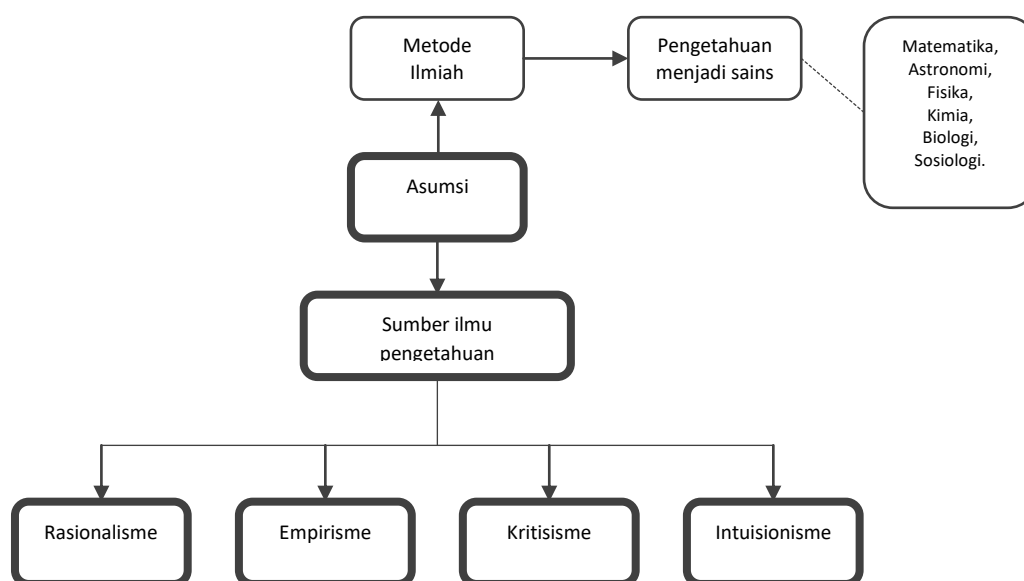
In discussing the basic assumptions of human science which form the basis of this article, we will discuss human assumptions and science.

### 1. Assumption

In terms of language, as quoted from KBBI Online, what is meant by assumptions are conjectures that are accepted as a basis or also a basis for thinking because they are considered correct.

### 2. Human Scholarship

Mohammad Muslih on Nani Widiawati (2020) assumes that the basis of the human scientific process is related to the three elements of science which consist of the subject, the object, and the meeting of the two, including questions about the nature and role of each element in the scientific process.



Gambar 1. Skema asumsi dasar keilmuan manusia

According to the study of epistemology or the theory of knowledge, which is a branch of philosophy, there are several methods for obtaining knowledge that aims to seek scientific truth (Sudiby, Triyanto, & Suswandari, 2014), As for seeking the truth scientifically, it is carried out by several methods, which include the following:

### 1. Rationalism

Etymologically, rationalism comes from the English language rationalism, and this word has its roots in the Latin word ratio, which means "reason". Then terminologically, it is a school that understands and holds on to the principle that reason is the main source of true knowledge. Reason occupies a superior and free position or is detached from sensory observation, experience is only used to reinforce

the knowledge acquired by reason, thus the notion of rationalism is mind-centered. (Susanti Vera, dkk. 2021).

In a book entitled *General Philosophy* written by Ahmad Tafsir, he explains, Rationalism is a philosophical understanding which says that reason (*renson*) is the most important tool in acquiring knowledge and testing knowledge. If empiricism says that knowledge is obtained by experiencing natural empirical objects, then rationalism teaches that knowledge is obtained by thinking. The tools in thinking are logical rules or logical rules.

There are two kinds of rationalism: in the field of religion and in the field of philosophy. In the field of religion, rationalism is the opposite of authority; in the field of philosophy, rationalism is the opposite of empiricism. Rationalism in the field of religion is usually used to criticize religious teachings, and rationalism in the field of philosophy is mainly used as a theory of knowledge. As opposed to empiricism, rationalism argues that some and a significant part of knowledge come from the discovery of reason. The most obvious example is our understanding of logic and mathematics.

The discoveries of logic and mathematics were certain. We not only see it as true but more than that we see it as an infallible truth, a universal truth. (Ahmad Tafsir, 2010)

Meanwhile, in the *capita selekta philosophy* written by ali sofyan, In the modern era of philosophy, the first figure of rationalism was Rene Descartes (1595-1650). Other figures of rationalism are Baruch Spinoza (1632 – 1677) and Gottfried Wilhelm Leibniz (1646 – 1716). Descartes is considered the father of modern philosophy. According to Bertrand Russell, the word "Father" deserves to be given to Descartes because he was the first person in modern times to build a philosophy based on self-belief resulting from scholarly knowledge. He was also the first person in the late Middle Ages to formulate a strong and firm argument that concluded that the basis of philosophy must be the reason, not feeling, not faith, not holy texts, and nothing else. (Ali Sofyan, 2010)

### **Principal Teachings of Rationalism**

Some of the main teachings of rationalism include the following:

1. Rationalism believes that through abstract thought processes we can reach fundamental, undeniable truths: (a) about what exists and its structure, and (b) about the universe in general.
2. Rationalism believes that reality as well as some truths about reality can be reached without the use of empirical methods.
3. Rationalism believes that the mind is capable of knowing some truths about reality, preceding any experience whatsoever. Knowledge gained without experience is called *a priori* knowledge.
4. Rationalism believes that reason (*ratio*) is the main source of science, science is basically a deductive system that can be understood rationally which is only indirectly related to sensory experience.
5. Rationalism believes that truth is not tested through sensory verification but through the criteria of logical consistency. Rationalists determine the truth based on the consistency between one statement and another or the conformity between the statement (*theory*) and the agreement (*consensus*) of scientists.
6. Rationalism believes that the universe (*reality*) follows rational laws of nature, because the universe is a rationally designed system, whose rules conform to logic/mathematics. (Akhyar Yusuf Lubis, 2016)

## **2. empiricism**

The word empiricism is etymologically from English empiricism and experience, this word is rooted from the Greek *empeiria* and *experientia* which means "experienced in". Then terminologically the notion of empiricism is a doctrine or understanding that believes that the source of all knowledge must be based on sensory experience, ideas are only abstractions formed from what is experienced, and sensory experience is the only source of knowledge (Bagus, 2002).

Empiricism is a philosophical doctrine that emphasizes the role of experience in acquiring knowledge, and downplays the role of reason. Empiricism is the opposite of rationalism. In order to understand the contents of this doctrine, it is necessary to first understand the two main characteristics of empiricism, namely the theory of meaning and the theory of knowledge.

The theory of meaning in empiricism is usually expressed as a theory about the origin of knowledge, namely the origin of ideas or concepts. In the Middle Ages this theory was summarized in the formula *Nihil est in intellectu quod non prius fuerit in sensu* (there is nothing in our minds but preceded by experience). What is meant by experience here is sensory experience or knowledge that comes from observations that we make of our souls. himself by means of what Locke called inner sense.

The second theory, namely the theory of knowledge, can be summarized as follows. According to rationalists there are general truths such as "every incident must have a cause", basic mathematics and some basic ethical principles, and truths that are true by themselves which are known as acquired truths. by rational intuition. Empiricism rejects that opinion, there is no rational intuitive ability. All the truths mentioned above are truths obtained through observation. (Ali Sofyan, 2010)

In a book entitled *General Philosophy* written by Ahmad Tafsisir, he explains that thinkers in England are moving in a different direction from the theme pioneered by Descartes. They follow in the footsteps of Francis Bacon, namely the flow of empiricism. Empiricism is a philosophical doctrine that emphasizes the role of experience in acquiring knowledge and knowledge itself and minimizes the role of reason. The term empiricism is taken from the Greek *empeiria* which means experience.

The first person in the 17th century to follow the flow of empiricism in England was Thomas Hobbes (1588-1679). If Bacon is more meaningful in the field of research methods, Hobbes is more meaningful in the field of doctrine or teachings. Hobbes had devised a complete system based on empiricism consequently. Although it is based on empirical foundations, it also accepts the methods used in the natural sciences which are mathematical in nature. He has united empiricism with mathematical rationalism. He united empiricism with rationalism in the form of a materialistic philosophy consistent with modern times.

As adherents of empiricism, recognition or knowledge is obtained through experience. Experience is the beginning of all knowledge, as well as the beginning of knowledge of principles acquired and confirmed by experience. All knowledge comes from experience. Thus, only experience gives assurance of certainty.

Furthermore, the empirical tradition was continued by John Locke (1632-1704) who applied the empirical method for the first time to questions of recognition or knowledge. For Locke, the most important thing is to describe how humans know. He tried to combine the theories of empiricism, as taught by Bacon and Hobbes, with the teachings of Descartes' rationalism. This attempt to strengthen the teachings of empiricism. He opposed the theory of rationalism regarding the first ideas and

principles that were seen as innate in humans. According to him, all knowledge comes from experience and nothing more than that

In the hands of Locke's empiricism, philosophy underwent a change of direction. If Descartes' rationalism taught that the most valuable knowledge does not come from experience, according to Locke, it is experience that is the basis of all knowledge. Even so, empiricism is faced with a problem that philosophy has not been able to solve satisfactorily. The problem is to show how we have knowledge about something other than ourselves and how the mind itself works.

For this reason, Western philosophy tends to empiricism, which is a school of philosophy that argues that experience is the source of knowledge. Reason is not a source of knowledge, but reason functions to process data - data obtained from experience (Ahmad Tafsir, 2010)

The main teachings of empiricism can be summarized as follows:

- a. Empiricism believes that the source of knowledge is experience (Greek: *empeiria*; Latin: *experientia*).
- b. Empiricism places great emphasis on the empirical-experimental method.
- c. Empiricism uses inductive reasoning (Akhyar Yusuf Lubis, 2016).

### **3. Criticism**

This flow appeared in the 18th century. A new era in which an intelligent thinker tries to resolve the conflict between rationalism and empiricism. This new era is called the Age of Enlightenment ( *Aufklärung*). This era of enlightenment emerged where humans were born immature (in their philosophical thinking). However, after Kant conducted an investigation (criticism) of the role of reason knowledge. After that, humans feel free from authority that comes from outside humans, for the sake of human progress/civilization. (Asmoro Achmadi, 1997)

Before discussing criticism, it is better to get to know a figure known as "criticism" introduced by Imanuel Kant (Wijana, Listiawati, & Ekaningtyas, 2022). The ideas put forward by Kant actually cover three important issues. First, what can I know? Second, what should I do? Third, what can I expect? These three important questions were answered by Kant with his three phenomenal books, namely the book *Critique der reinen Vernunft* (Critique of Pure Reason) to answer the first question, the book *Criticism der practicalchen Vernunft* (Critique of Practical Reason) to answer the second question, and the *Critique der Urteilkrat* (Critique of Judgment) to answer the third question (Hudin, 2019).

Through his philosophy, Kant intends to restore the objectivity of the world of science. In order for this purpose to be carried out, people must avoid the one-sided nature of rationalism and empiricism. Rationalism thinks it has found the key to unlocking rationality in its subject, apart from experience. Meanwhile, empiricism thinks it has gained knowledge from experience alone (Praja, 2003).

As for Juanda in his book *Putranta*, he explains that Criticism is a philosophical school which not only seeks to combine differences of opinion in the philosophical schools of rationalism and empiricism, but is also aimed at deepening the two different streams. The deficiencies shown by each of these views are replaced by views in that they provide flexibility for the existence of materials that are sensory experience and also for the existence of subjects who know actively manage materials that are sensory experience (Putranta, 2017). So in essence, this criticism is a bridge between rationalism and empiricism.

Sinaga and Putri in a journal written by Syaiful Dinata, Kant views rationalism and empiricism as always one-sided in assessing reason and experience as sources of knowledge. He said that human recognition is a synthesis between a priori elements and a posteriori elements (Dinata, 2021).

#### **4. Intuitionism**

Complementing the thoughts above, there is another stream which has not a few followers, including to this day, namely intuitionism. This flow was pioneered by Henry Bergson (1859-1941). According to him, intuition is a means to know directly and instantly. The main element for knowledge is the possibility of a form of direct (intuitive) appreciation, in addition to experience by the senses. At least, in some ways intuitionism does not deny the value of sensory experience, although it recognizes that perfect knowledge is that which is obtained through intuition. (Mohammad Muslih, 2004)

Intuitionism is a school of thought or understanding that considers intuition (instinct/feeling) to be the source of knowledge and truth. Intuition is one of the thinking activities that is not based on reasoning. So Intuition is non-analytic and not based on a particular pattern of thinking and is often mixed up with feelings (Muliadi, 2020).

Intuition, or in Islamic thought is usually called the heart (*qalb*), is a means to gain knowledge directly. The basic character of this kind of intuition is of course different from reason (*ratio*), because the latter is a means of knowledge that is indirect. (Burhanuddin Salam, 1988)

The characteristics of intuition as a means to gain knowledge directly, among other things, are based on the following things. Because intuition has the basic ability to integrate, it overcomes the barrier between the subject and the object, so that the object is in the subject and a union is achieved between the two. Besides that, intuition is based on inner-spiritual experiences which are called existential experiences—compared to phenomenal experiences—that is, experiences that we directly feel and experience.

Epistemologically, intuitive knowledge comes from intuition obtained through direct observation, not about external objects but about the truth and nature of an object. In the Islamic tradition, the Sufis refer to this knowledge as a deep sense (*zauq*) related to inner perception. Thus, intuitive knowledge is a type of knowledge that God has bestowed on a person and on his heart so that some secrets are revealed to him and some realities are visible to him. The acquisition of this knowledge is not by way of logical conclusions as with rational knowledge, but by way of piety, so that a person has a clear heart and excellent spiritual insight. (Harun Hadiwijono, 1991).

Henry Bergson (1859-1941), a modern French philosopher who is intuitive, divides knowledge into two types; "knowledge about" (knowledge about) and "knowledge of" (knowledge of). The first knowledge is called discursive or symbolic knowledge and the second knowledge is called direct knowledge or intuitive knowledge because it is obtained directly.

Henri Bergson (1859-1941) is a figure of this flow. He considers that not only the senses are limited, reason is also limited. An object that is always changing, so our knowledge about it is never fixed. Intellect or sense is also limited. Reason can only understand an object when it concentrates itself on that object, for that, humans do not know the whole (unique), cannot understand the properties that are fixed in the object. For example, humans have different thoughts. By realizing the shortcomings of the

senses and reason, Bergson developed a high level of ability possessed by humans, namely intuition (Muliadi, 2020).

Intuition can also be called inspiration or inspiration that appears in the form of knowledge that is suddenly present in consciousness, without going through a clear and not always logical reasoning process. Intuition can appear at any time without our planning, whether relaxed or tense, when still or moving. Sometimes he comes when we are walking on the sidewalk, when we are taking a shower, when we wake up, when we are playing chess, or when we are enjoying the beautiful scenery and even when fishing.

Even though intuitive knowledge comes suddenly, it seems that it does not fall on just anyone, but only on people who have previously thought hard about a problem. When a person has maximized his thinking power and is experiencing congestion, then he rests his mind by sleeping or relaxing, that's when intuition is likely to emerge. Therefore intuition is often called supra-rational or an ability that is above the ratio, and only functions if the ratio has been used to its full potential but has reached a dead end (Anda Juanda, 2016).

Intuitionism Method; a way of obtaining knowledge through the intermediary of someone who tells an incident or about something that is known directly by the person who tells it. It is also possible that people are telling something that they did not see directly when something happened but through other people's intermediaries or information media. The results of knowledge obtained in this way can be divided into two parts, namely "knowledge about" (knowledge about) or discursive knowledge, and "knowledge about" (knowledge of) or intuitive knowledge.

- a. discursive knowledge; that is knowledge acquired through the use of symbols that try to tell us about something by acting as a translation for that thing.
- b. Intuitive knowledge; namely knowledge obtained by way of painting about something. Intuition is a means of knowing directly and instantly. Knowledge obtained by way of painting, will not be able to replace the direct introduction of intuitive knowledge (Bergson dalam Kattsof, 2004).

## **Conclusion**

Based on the explanation above, assumptions (or basic assumptions) are assumptions that are the starting point of the basic point of human science which makes it the basis of sources of knowledge that have four sources of knowledge, namely rationalism, empiricism, criticism and intuitionism.

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