

# Module 1: Knowledge, Truth, and Justification

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## 1. Does Knowledge Really Matter?

The central concepts of epistemology are *knowledge*, *truth*, and *justification*. But do these concepts function have any practical effect on our daily life? Are they abstractions for the professional philosopher to pontificate and quarrel about or do they play a real, practical, and efficacious role for human beings?

In many contexts, our beliefs and actions are inconsequential or about issues that there is *no fact to the matter*. If you debating with a friend about whether or not a cloud floating through

the sky looks like a hippo or an elephant, it may not particularly matter who is right. There is nothing at stake. Likewise, if you and your friend are debating about your favorite movies, and he claims, 'My favorite movie is the best of all time, your favorite is not'. In both of these cases, knowledge, truth, and the justification of belief do not seem to be very relevant or practical concepts. Nothing important seems to hinge on them. It does not really matter who is right, and there is no real need to justify that your belief is better, more justified, or more knowledgeable than your friend's since you are not debating about any issue that could be settled objectively.

But in other contexts, our beliefs and actions are consequential and about issues where there is a fact to the matter. Perhaps you and a friend are experimenting with chemicals that are potentially explosive. Neither you or your friend wants to be blown up. Your friend claims that adding water to acetone peroxide will neutralize its explosive properties, but you think that this is one of the few explosives that remain explosive even when wet. There is a fact to the matter and who is correct will determine the course of future events, and your future existence. Both you and your friend have beliefs and deciding how to proceed is often determined who has more chemical knowledge or who has familiarity with the behavior of organic peroxides. In this case, justification, knowledge, and truth have some practical importance to you. If you have tested acetone peroxide in water before, have studied chemistry extensively, and have worked for years with scientists who have studied it in detail, but your friend has never studied chemistry, has no previous experience with the chemical, and has formed his belief simply by guessing, then you both might collectively conclude that exposing acetone peroxide to water is unwise.

Your belief is of a *better quality* than your friend's belief, but what exactly makes it better? One answer is that your belief happens to be *true*. It is true that acetone peroxide is explosive when wet. Another reason is that your belief is *justified*. You have a *good reason* for thinking that acetone peroxide is explosive, while your friend does not. Intuitively, you want to say that because of an array of conditions and relations between you and certain facts, your belief counts as knowledge, while your friend's does not. This relation has practical import on your behavior your friend's behavior for your intuitive understanding of what does and does not count as knowledge guides allows you to evaluate which beliefs you should act upon and those that you shouldn't.

## 2. What is Knowledge?

One tactic for clarifying our understanding of knowledge is to give a better clarification of the use of the term 'knowledge', 'to know', 'knowing', etc. and make more explicit the meaning of the question 'what is knowledge?'

In trying to gain more clarification about the question 'what is knowledge', we want to character a type of relation between human subjects and the world. Whenever we ask the question 'what is knowledge' we are concerned with what it means for *human beings* or *human subjects* to know. Consider two different answers to the question, what things are known? Thus, our question,

(1q) What is knowledge?

is a vague version of the following question,

(2q) What does it mean for *S* to know something?

where  $S$  is a variable for a human subject.

## 2.1 Different senses of ‘to know’

There are a number of different senses to the meaning of ‘to know’. It is important to distinguish between them so that disagreement about *what* we know or *how* we know is not a disagreement about the meaning of ‘to know’. There are three prominent senses of ‘to know’: (a) propositional knowledge, (b) acquaintance knowledge, and (c) ‘how to’ knowledge. The focus of this course will be principally on propositional knowledge.

### 2.1.1 Propositional Knowledge

Propositional knowledge is *knowledge of facts or true propositions*. It is a relation between a subject  $S$  and a proposition  $p$ . A true proposition  $p$  is something expressed by a true declarative sentence that asserts something is the case. For example, John may say ‘two plus two equal four’, Frank might say ‘deux et deux fois quatre’, or they both may simply write ‘ $2+2=4$ ’. While they both may know that  $2+2=4$ , John may not know that ‘deux et deux fois quatre’ is true since he does not know French. Thus, each of these true sentences is thought to represent the same true proposition, and *to know something* is to know a true proposition.

Thus, the extension of knowledge for propositional knowledge is explained in terms of *propositions*, which can be expressed by a variety of different declarative sentences.

### 2.1.2 Acquaintance Knowledge

Acquaintance knowledge is distinct from propositional knowledge. Acquaintance knowledge is characterized by having a *direct experiential encounter* with a particular object.

Consider, for example, if you were to say that ‘John knows the President of the United States’. What you mean here is that John has met the President in some form or capacity or that they are good friends. The extension of John’s knowledge is the President, and the intension of knowledge consists of his perceptual experience of him.

Having *acquaintance knowledge* is different from *knowing about* or having propositional knowledge of something. For example, I may know that the chemical element Ununhexium has 116 protons in its nucleus but this does not mean that I have any perceptual acquaintance or familiarity with this rare chemical element. The extension of knowledge in propositional knowledge is propositions expressed by true sentences, and *not* objects. I have never seen Ununhexium, nor have I ever been in the same room with this element. In fact, only 30 atoms of ununhexium have been produced from 2000 to 2010.

So, I may have propositional knowledge expressed by a true sentence but not acquaintance knowledge. That is, I know a lot of facts about the President or Ununhexium but not I don’t ‘know him’ in the sense of ever having met him. Likewise, I may have acquaintance knowledge but not propositional knowledge. I may have met the President and be a friend of his, but I may not know that he is a crook or that does not pay his taxes or is planning on signing a controversial bill tomorrow.

### 2.1.3 ‘How To’ Knowledge

When someone says ‘John knows how to X’, there are two different possible meanings. First, ‘knowing how’ can imply that one has the *ability to do* X. For example, ‘John knows how to read’ implies that John has the ability to read.

However, in some cases, ‘knowing how’ **does not** imply that John has the ability to do X. For example, consider the sentence ‘John knows how to build a computer’. This does not imply that John has the ability to build a computer because John may be paralyzed or because we may simply mean that John has the ability to *describe* how a computer is built.

In the first case, the extension of ‘how to’ knowledge are certain tasks or feats. In the second case, the extension of ‘how to’ knowledge is a type of propositional knowledge.

### 3. What is Propositional Knowledge?

Consider our original questions concerning knowledge

(1q) What is knowledge?

(2q) What does it mean for *S* to know something?

By choosing one of the different types of knowledge, our answer can be further clarified. Thus, depending on which type of knowledge we think is most important and most fundamental, we can ask a more directed question. This course will focus on *propositional knowledge*, so our question can be clarified as the following:

‘What is it for a human subject to have propositional knowledge?’

Alternatively, where *S* and *p* are variables for human subjects and propositions respectively, our new question becomes

(3q) What is it for *S* to know that *p*?

### 4. Answers to the Question: What is Propositional Knowledge?

An answer to (3q) will be an answer to our more basic question ‘what is knowledge’. We want our answer to satisfy our basic intuitions about what knowledge is as well as not be subject to objections that make our answer look silly.

#### 4.1 Knowledge is Belief (*B*)

Here is a naive answer to (3q).

(1a) *S* knows that *p* = Df. *S* believes that *p*.

This definition of knowledge claims that a *S*’s *belief* is sufficient for knowledge.

#### 4.1.2 Objections

First, (1a) implies that all beliefs are knowledge, even false ones. For example believing that  $2+2=4$  is knowledge, and so is  $2+2=5$ . It also implies that a contradiction (a sentence that is always false) can be known, since *S* can know *p* and *S*’ can know *not-p*.

Second, (1a) implies that all beliefs are of the same quality, none more suitable than any other.

Third, (1a) implies that beliefs based on zero evidence or reasoning are knowledge.

#### 4.2 Knowledge is True Belief (TB)

While belief alone is not sufficient for knowledge, true beliefs might be. Thus, we revise our initial answer to (1) as follows:

(2a)  $S$  knows that  $p$  = Df. (1)  $S$  believes that  $p$  and (2)  $p$  is true

This definition of knowledge claims that a subject's *true belief* is sufficient for knowledge.

##### 4.2.1 Objections

First,  $S$ 's knowing that  $p$  should **not reduce to luck**. For example, there is a piggybank sitting on a desk. A man tells all of the people in the room that if you are able to guess the exact amount in the piggybank, the piggybank is yours. I believe this is my lucky day, that I am good at guessing, and that 'There is \$52.31 in the piggybank'. I state with great confidence, and so do 1,000 other individuals in the room. Later the piggybank is counted and it turns out that my belief in  $p$  was true. This is not knowledge since my belief in  $p$  was not based on any evidence or formed by any method different from the 1,000 people in the room.

Second, more generally, we think that knowledge should involve a positive reason for  $S$ 's belief that  $p$ . But  $S$  has no non-arbitrary reason to believe that  $p$  is true as opposed to *not- $p$* . So again, this definition of knowledge does not require that  $S$  have any *justification* or evidence for  $p$ .

#### 4.3 Knowledge is Justified True Belief (JTB)

While true belief alone is not sufficient for knowledge, **epistemically justified** true beliefs might be. That is, to the question 'what is it for  $S$  to know that  $p$ ?', we might claim that for  $S$  to know that  $p$  it is sufficient that not only does  $S$  believe  $p$  and  $p$  is true, but  $S$  has good evidence or reason for believing that  $p$  is true. Thus, we revise our initial answer to (3q) as follows:

(3a)  $S$  knows that  $p$  = Df. (1)  $S$  believes that  $p$ , (2)  $p$  is true, and (3)  $p$  is epistemically justified for  $S$ .

This definition is immune to the objections posed to earlier definitions since (i) neither mere belief in  $p$  (ii) nor the fact that  $p$  happens to be true are enough. What is also required is that  $S$  has a good reason, a defensible position, or some form of intellectual justification as to why  $S$  believes that  $p$  is true.

### 5. The Three Conditions for JTB

We need to further analyze the three clauses of the definition of (3a):

(3a)  $S$  knows that  $p = \text{Df.}$  (1)  $S$  believes that  $p$ , (2)  $p$  is true, and (3)  $p$  is epistemically justified for  $S$ .

In the next three sections, we consider (1) the type of belief, (2) the meaning of truth, and (3) the meaning of epistemic justification.

## 5.1 The ‘Belief’ in JTB

In the context of propositional knowledge, belief is characterized as a propositional attitude. It is a type of relation between a subject  $S$  and a proposition  $p$ . But there are other types of relations between *subjects* and propositions  $p$ .

Consider the proposition expressed by the sentence ‘The Communist Party won the election’. Subjects can take a variety of different attitudes to the proposition expressed by this sentence. For example, you can *hope* it is true, *wish* it was false, *believe* it is true, *accept* it is true, *deny* that it is true, *desire* it to be true, *entertain* it as true, etc.

The propositional attitude required for ‘knowledge’ is **belief** but (1) how *intense* does our belief need to be and (2) *what sort of belief*?

### 5.1.1 The Intensity of Belief

One issue concerns the *intensity* of acceptance (or rejection) required by the subject. A subject may, for example, be in the process of considering whether or not to accept a proposition  $p$ . The subject may be torn between  $p$  and its contradictory not- $p$ , finding neither of the two more compelling, and the subject simply ‘ride the fence’. In this case, we might say that the subject does not believe unless he or she has a stronger commitment or conviction to  $p$ . He or she must decide one or the other.

Also, perhaps the subject just heard  $p$  and has not decided whether or not to accept  $p$  or not. This propositional attitude seems to be an *entertaining* of  $p$  by  $S$  rather than a *believing* of  $p$  by  $S$ . The subject must make a stronger commitment.

But, while ‘belief’ seems to require a greater intensity than provisional consideration, it is not clear how strong  $S$ ’s level of conviction must be in order for  $S$  to believe  $p$ . Generally, how much intensity a subject needs to have is between *complete unwavering conviction* to  $p$  and *provisional acceptance*.

### 5.1.3 Summary

To the question,

(3q) What is it for  $S$  to know that  $p$ ?

We give the provisional answer that

(3a)  $S$  knows that  $p = \text{Df.}$  (1)  $S$  believes that  $p$ , (2)  $p$  is true, and (3)  $p$  is epistemically justified for  $S$ .

We further clarified (1q) by articulating the *intensity of beliefs* (falling somewhere below total commitment but above lack of any commitment).

## 5.2 The ‘Truth’ in JTB

The second clause of (3a) insists that the proposition believed in be true. There are a variety of different theories of truth. Generally, we will assume that for the majority of propositions, their truth depends on something independent of belief alone. Call these ‘the facts’ or ‘the world’.

## 5.3 Epistemic Justification in JTB

The third clause of (3a) involves a notion of epistemic justification. According to the above articulation of knowledge as *justified true* belief, one of the necessary conditions for S knowing p is that p is epistemically justified for S. What does it mean for p to be epistemically justified for S?

### 5.3.1 Five Assumptions about Epistemic Justification

**First**, epistemic justification is distinct from other forms of justification. For example, p is practically justified for S iff there is good evidence that p is not true but S should still believe p. Here are three examples.

#### 1. Belief in God

It is sometimes argued that even though there is no convincing evidence that ‘God exists’ is true, you should believe that ‘God exists’ anyway. That is, you are not epistemically justified in believing the proposition but practically you are. The reason for this is that you are better off believing in God because if you don’t, you might miss out on the afterlife. That is, assuming that God only grants eternal happiness in the afterlife to believers, it is better to believe in God than not because belief is the necessary prerequisite to eternal happiness. This is a form of practical justification.

#### 2. A leap over a chasm

Imagine a case where you are running from a pack of wolves and they chase you to the edge of a cliff. You have two options (1) face the wolves and probably be eaten or (2) make a leap across the chasm to the other side and probably fall to your doom. Although it is most likely the case that you will be eaten if you fight the wolves or fall to your doom if you try to jump across the cliff, some argue that you at least have a fighting chance if you choose one of the two options and believe that you can triumph. This is a form of practical justification. Even though there is no evidence that you can defeat the wolves, you should believe that you can because this increases the likelihood that you will defeat them.

#### 3. Fighting illness

The same is the case for fighting illness. It is often recommended that you be optimistic or believe that you will get better even though it is likely that you will succumb to said illness. In such a case, although the evidence is against the truth of ‘I will survive my illness’, you are nevertheless justified in believing ‘I will survive my illness’.

The difference between *epistemic justification* and *practical justification* is that epistemic justification concerns not a justification for merely *why* you should believe *p* but justification for the truth of *p*.

**Second**, a proposition *p* can be true but not epistemically justified, and *q* can be epistemically justified but not true. Consider an example, ‘There is an even number of trees in Canada’. This *p* may be true but you may have no evidence for it being true. If you haven’t counted the number of trees in Canada, then there is no reason why you should believe that proposition over and above ‘There is an **odd** number of trees in Canada’. Alternatively, consider a proposition *q* that you have plenty of good evidence and reason for but that happens to be false. For example, you can be reasonably certain that ‘the sun will rise tomorrow’ is true but this proposition might turn out to be false. Another example. You are walking under a bridge, and the bridge collapses on you. You then see your arch-enemy running in the distance. You may have good reason to believe ‘My arch-enemy caused the bridge to collapse’ but this may be false since it was a coincidence.

**Third**, a proposition *p* can be epistemically justified for a person, but that person might not be able to consciously articulate why *p* is justified. For example, consider the case where John witnessed a famous person murder someone. After having seen the murder John goes to the bar and has a number of drinks to the point of intoxication. In his drunkenness, John tells the guy next to him at the bar that he has witnessed a famous person murder someone. The guy next to him finds this to be implausible and challenges John on various details but since John is drunk, he stumbles over what happened, the chronology of events, and why John happened to be at the scene of the crime. John’s account sounds implausible and he has offered no coherent explanation to the guy next to him as to why ‘A famous person I saw murdered someone’ is true.

The point is that a person being able to *justify* a proposition is distinct from *a proposition being justified for a person*. The former is an activity and dependent upon an individual’s state of mind, his/her ability to remember, and so on. The latter is a state that one is in.

Fourth, while knowledge may not be relative from person to person, epistemic justification can be relative. Consider the case of a murder of John. Say that Victor knowingly murdered John but that Victor is a well-respected member of the community. He donates money to charity, spends time helping the unfortunate, and spends his weekends doing odd jobs for elderly people. Victor’s friends, family, and community may all be epistemically justified that ‘Victor did **not** murder John’. The proposition is not knowledge but they all have good reason to believe it is true. But suppose that Mary witnessed the John’s death. She is epistemically justified in believing ‘Victor **did** murder John’ even though her belief conflicts with all of Victor’s friends, family, and the community.

**Fifth**, a proposition *p* may be epistemically justified for *S* but *S* may not believe *p* for the reason (or on the evidence) that makes *p* epistemically justified. Suppose there is an abundance of excellent evidence available to *S* for the truth of *p*, and so *p* is epistemically justified for *S*, but *S* may believe *p* on the basis of evidence that does not support the truth of *p*. In this case, *p* is epistemically justified for *S* and while *S* believes *p*, the reason *S* believes *p* is not based upon evidence that supports *p*. Consider the following example.

John has very good evidence that he will not win the 100 million dollar lottery. Let’s say that John is familiar with how many tickets are sold, understands basic probabilities, has not bought a ticket for said lottery, and is not planning on rigging the lottery drawing. Based upon this available evidence, it is reasonable to think that ‘John will **not** win the



100 million dollar lottery' is *epistemically justified* for John. Suppose further that John also *believes* that he will not win the lottery. This looks like it should count as knowledge. But there is a problem. John's belief in  $p$  may not be founded (or based upon) the evidence that epistemically justifies  $p$ .

Suppose that despite all of the available evidence above, the **reason** that John believes that he will not win the 100 million dollar lottery is because a psychic told him that he would have bad luck. In this case, while  $p$  is epistemically justified for  $S$ , and  $S$  believes  $p$ ,  $S$  does not believe  $p$  because of the evidence that makes  $p$  epistemically justified for  $S$ .

This seems problematic because our intuition is that in order to say that  $S$  knows that  $p$ ,  $S$  should believe  $p$  based upon the evidence that makes  $p$  epistemically justified for  $S$ . Thus, we need to revise our definition of knowledge from (3a) to

(4a)  $S$  knows that  $p$  = Df. (1)  $S$  believes that  $p$ , (2)  $p$  is true, and (3)  $p$  is epistemically justified for  $S$ , and (4)  $S$  believes  $p$  based upon the evidence that makes  $p$  epistemically justified for  $S$ .

Our insertion of the fourth clause in (4a) is to insist that in order for  $S$  to know that  $p$ ,  $p$  must not merely be believed for any random reason, but that  $p$  is **well-founded**.

A proposition  $p$  is **well-founded** for  $S$  = Df. (1)  $p$  is epistemically justified for  $S$ , and (2)  $S$  believes  $p$  based upon the evidence that makes  $p$  epistemically justified for  $S$ .

We can thus make our definition of knowledge more compact by stating

(4a)  $S$  knows that  $p$  = Df. (1)  $S$  believes that  $p$ , (2)  $p$  is true, and (3)  $p$  is well-founded for  $S$ .

This is acceptable since (3) implies that  $p$  is epistemically justified for  $S$ .