

Definition

A definition has two parts: the *definiendum* (the word or expression being defined) and the *definiens* (the phrase which defines the definiendum).

There are two main types of definitions: stipulative and lexical.

Lexical or dictionary definitions attempt to explain words by reference to their popular use. (Lexical definitions include connotative (or analytic) definitions; connotative definitions reflect those features of a thing which users of the language accept as criterion of use. Since the definiens may not include the necessary and sufficient conditions for use, such definitions may not be exact. Other kinds of lexical definition are: definition by synonym, ostensive definition, definition by example, and definition by enumeration of subclasses).

Stipulative definitions, on the other hand, are not concerned with whether the definition agrees with the way people ordinarily use the word; they are not reports of common usage. Instead, we might say that they are proposals to use a word in a specific way (e.g., in order to make a distinction not usually made. Some kinds of stipulative definitions are: precisising definitions, operational definitions, and contextual definitions). Of course, some such proposals may become widely accepted so that they become part of established usage and, hence, eventually lexical definitions.

Sometimes a third type of definition (real or essential definition) is suggested. Such 'definitions' are of things, not words, and since the meaning of a word is often dependent on characteristics of the thing referred to, the distinction between real definitions and lexical definitions may become unclear. (Some examples of real definition are: definition by genus and difference, functional definition, genetic definition, and theoretical definition).

Exercise: State the general type and specific kind of each of the following definitions:

1. "Cantankerous" means "quarrelsome."
2. "Bird" denotes a creature such as a swallow, oriole, or owl.
3. In this experiment, the expression "soluble in water" means "if anything x is put into water at any time t, then if x is soluble in water, x dissolves at the time t, and if x is not soluble in water, it does not."
4. "And that," said my friend as she pointed to a grey furry marsupial, "is a koala."
5. "Deviant behaviour" means "behaviour which violates institutionalized expectations."
6. "The word 'length' means what we do when we start with a measuring rod, lay it on the object so that one of its ends coincides with one end of the object, etc., etc."
7. "In": "X is in Y when X is entirely enclosed by Y."
8. A knife is a thin blade attached to a handle and used for cutting.
9. Flattery is praise that is excessive and insincere.
10. Poetry is what Auden, Browning, Milton and Shakespeare wrote.
11. 'Fortuitous' means 'accidental'
12. In 1993, Statistics Canada defined 'poverty' as an income below \$24,000 per annum

- for a nonfarm family of four.
13. A stalactite is a deposit, usually made of calcium carbonate shaped like an icicle, hanging from the roof of a cave and formed by the dripping of percolating calcareous water
 14. For the purpose of this course, a passing grade will be defined as a grade of 70 or over.
 15. "Circle" means "a closed plane figure whose points are equidistant from the centre".
 16. The speed of an object is obtained by dividing the distance it covers by the time it takes to cover it.

Conditions for definition:

Since logic is concerned with the clear presentation of arguments, the terms we use must be precise. Thus, a definition should meet the following conditions:

1. be clear -
That is, it must *be clear* to your audience. Thus, a scientist's definition of gravitation would not be clear to the layperson because it is *too technical*. Alternately, the use of figurative language in the definiens may also impede clear understanding (e.g., Wilde's definition of "cynic" as "A person who knows the price of everything and the value of nothing."). Thus, definitions should avoid being *too figurative* or metaphorical.
2. positive -
Negative definitions leave too many possibilities open. For example, to define "radio" as "wireless communication" ignores that semaphore, too, is wireless communication. Thus, the definiens should not be expressed negatively (unless, perhaps, the definiendum is negative).
3. Not circular -
That is, not defined in terms of itself. The definiendum should not appear in the definiens (e.g., "cause": "that which brings about an effect"; "effect": "that which is brought about by a cause," or "capitalism": "the doctrine which advocates capitalist ideas").
4. neither too broad nor too narrow -
A definition should *not* apply to more things than that which it defines normally applies (e.g., "automobile": "a self-propelled vehicle"). Neither should it apply to *fewer* things than the definition normally applies (e.g., "automobile": "a four-wheeled self-propelled vehicle with an engine in front".)
5. should state an important characteristic -
That is, it should state a characteristic whose presence or absence decides whether a thing is the sort of thing it is (e.g., 'human being': "rational animal," *not* "featherless biped.").

Exercise: Indicate which rules, if any, the following definitions violate:

- | | | |
|-----------------|-------------------------------|------------------|
| a) Too broad | b) Too narrow | c) Circular |
| d) Too negative | e) Too figurative or poetical | f) Too technical |

1. "Piety means prosecuting the wrongdoer who has committed murder or sacrilege or any other such crime." - Euthyphro, as quoted by Plato
2. "A cynic is one who knows the price of everything and the value of nothing."
- Oscar Wilde
3. "Man is a featherless biped." (attributed to Plato)
4. Being autonomous is having autonomy over one's decisions and actions.
5. "To 'eat' is to perform successively (and successfully) the functions of mastication, humectation, and deglutination." - Ambrose Bierce
6. A prudent person is one who does not take unnecessary chances and who is not extreme in his or her actions.
7. "... to define true madness, What is't but to be nothing else but mad?"
- Shakespeare, Hamlet
8. "A fanatic is a man who redoubles his efforts after he has forgotten his aim."
- George Santayana
9. "What is pleasing to the gods is pious and what is not pleasing is impious."
- Euthyphro, as quoted by Plato
10. A dormitory is an edifice used by college students as a residence away from home.
11. An effect is that which is produced by a cause, just as a cause is that which produces an effect.
12. A cow is a domesticated animal which gives milk.
13. "An idiot is a member of a large and powerful tribe whose influence in human affairs has always been dominant and controlling." - Ambrose Bierce
14. "A gentleman is a man whose principal ideas are not connected with his personal needs and his personal success." - William Butler Yeats
15. Democracy is that form of government which respects the civil rights of the people.

Statements and Necessary Truth

Normally, logic cannot tell you whether a statement is true (or false). But there are exceptions.

A statement is a necessary truth if its truth is able to be shown on purely logical grounds (i.e., because of **either** something about its form **or** about its content)

A statement which is necessarily true in virtue of its form is called a **tautology** (e.g., *Either it is raining or it isn't raining.*)

A statement which is necessarily true in virtue of its content – the predicate is contained in the subject (e.g., by definition) – is called **analytic**. (e.g., All bachelors are unmarried.)

A **contradiction** is (for example) a statement which is **necessarily false**, either in virtue of its form or because of semantic considerations (i.e., the meaning of the terms used).

Exercise: Which of the following statements are necessarily true? are contradictions?

1. If I'm William Sweet then I'm William Sweet.
2. If it is false that I am not William Sweet then I am William Sweet.
3. Either I am William Sweet or I'm not William Sweet.
4. I am William Sweet.
5. All unmarried women are spinsters.
6. All dodos are birds.
7. All swans are white.
8. $2 + 2 = 4$
9. $7 + 5 = 12$
10. $2 + 2 = 5$
11. God is all powerful.

Consistency and Inconsistency

Two or more statements are **inconsistent** (with one another) if they cannot all be true at the same time (e.g., the truth of one entails the falsity of the other)

E.g., All human beings have rights. Some human beings do not have rights.

The moon is made (only) of green cheese. The moon is not made (at all) of cheese.

If they do not contradict, they are **consistent** (i.e., **There is a possible situation in which all the statements are true**)

Some Canadian residents can vote. Some Canadian residents cannot vote.

Some human beings (i.e., who have been ‘born’) have a right to life. Some human beings (i.e., who have *not* been ‘born’) do not have a right to life

She is wearing red. She is wearing blue.

The following set of sentences is consistent.

1. Grass is green.
2. It is not the case that the moon is green.
3. Most humans have ten fingers.
4. Grasshoppers have six legs and dogs have four.
5. Earth is a cube.

Exercise: Which of the following sets of statements are inconsistent? Explain.

1. All animals are equal but some animals are more equal than others.
2. To get to StFX from Halifax, you can take Highway 107 East and Highway 7 to Addington Forks and turn right, and you can take Highway 102 East and Highway 104.
3. Only material substances exist and the mind is an immaterial substance.
4. People have free will, but everything people do is determined by prior natural causes.
5. Everyone is equal and should be treated equally. But sometimes we need to have affirmative action policies to promote equality.
6. Professors have – and should have – a right to challenge all opinions and values in their classes. This is not only ‘academic freedom,’ it is necessary to the pursuit of truth and is also part of the free speech that is guaranteed in our constitution. But if they use speech in a way that makes students uncomfortable or embarrassed, or use racist, sexist, or homophobic speech, they should be stopped.
7. There are immaterial substances but there is no God.
8. Christianity is true and Islam is true.