

Glossary of Terms in Logic and Philosophy

A Working Draft by Brendan Myers

Cegep Heritage College, Gatineau, Quebec, Canada.

Version 2.0. (2017)

<http://www.brendanmyers.net>

*Note: This is exactly the same glossary that appears as an appendix in **Clear And Present Thinking, 2nd Edition**. I've put it in a separate document so I can update it more easily.*

Concepts that appear in boldface are cross-references to other entries in this glossary.

Aletheia. Revealing, disclosure, un-hiddenness; the opposite of *lethe*, 'forgetfulness' or 'oblivion' (and the mythological river whose waters cause souls to forget their past lives before they are reborn); a theory of truth popularised by philosopher Martin Heidegger.

Alternative Facts. A neologism coined in 2017 by a spokeswoman for US President Trump, intended as a euphemism for lies, half-truths, **Disinformation**, and/or **Bullshit**.

Analytic Proposition. A proposition which expresses only one thought. (See also: Synthetic Proposition.)

Analytic Tradition. One of two dominant paths of Western philosophy in the twentieth century, characterised by Pragmatism, Empiricism, Epistemology, and Utilitarian ethics. (See also: **Continental Tradition**.)

A Fortiori. (Latin: 'From what is stronger'). An indicator word used to show that some **Conclusion** follows with stronger reason than another one.

A Posteriori. (Latin: 'After experience'). A proposition which gains its truth because of evidence, observation, or the experiences of our bodily senses.

A Priori. (Latin: 'Before experience'). A proposition which is endowed with truth because of its logical structure alone.

Aporia. A state of puzzlement, confusion, or impasse; a problem in logic which appears impossible to solve. (See also: **Pickle**.)

Areteology. Also known as virtue ethics: A branch of ethics which emphasizes character values and moral identity; the account (*logos*) of what is excellent (*arete*) in human affairs. The basic promise of areteology is that by living a life of moral excellence one may be successful in the pursuit of eudaimonia, flourishing, happiness, worthwhile-ness of life. (See also: **Logos, Ethics, Doctrine of the Mean.**)

Argument. A collected series of statements intended to establish a proposition; any two or more propositions in which there is at least one premise, and the premise(s) lead to a Conclusion according to logical rules. A typology of common arguments is given in Chapter 5 of this book.

Argumentation. The process of debating the worth and merits of a proposition.

Begging the Question. A type of logical **fallacy** in which a conclusion says exactly the same thing as the premises; an argument which presupposes the conclusion instead of providing reasons for it.

Bias. In general, a belief or a value to which one continues to subscribe even after that belief or value has been shown to be wrong, harmful, illogical, etc. Bias can also imply unfair judgment or contempt of something. (See also: **Observer Bias, Mere Repetition Bias.**)

Biconditional Statement. Two propositions which are treated as a single proposition, having been joined together by the relation of ‘if and only if’.

Boolean Operators. The three main logical operators ‘And’, ‘Or’, and ‘Not’, which are used in the fields of analytic logic and computer programming. Did you see how I used one of them, right there?

Bullshit. A discussion of events or facts about which the speaker lacks knowledge; a discussion of events or facts in which the speaker doesn’t care whether his claims are true or false.

Burden of Proof. The responsibility to bring forth evidence or an argument that some proposition is true or false. This responsibility normally falls on the person who has advanced the proposition. (See also: **Extraordinary Claims.**)

Categorical Imperative. A principle of ethics proposed by Immanuel Kant: ‘Act on that maxim which you can at the same time will that it shall be a universal law.’ (See also: Deontology, Practical Imperative, Ethics.)

Categorical Logic. In formal logic: A branch of **Deduction**, involving **Syllogisms** and **Categorical Propositions**.

Categorical Proposition. A type of proposition which has two parts: A Subject (the thing under discussion) and a Predicate (a property attributed to the subject, or a classification in which the subject belongs), united by the copula verb 'is/are'. (See also: **Proposition, Categorical Logic, Formal Logic.**)

Circular Fallacy. See Begging the Question.

Cognitive Dissonance. The condition of unease or discomfort arising from holding two contradictory thoughts at the same time.

Conclusion. The 'point' of an argument; that which a speaker wishes to persuade others to believe; a statement which is logically supported by one or more premises.

Conditional Statement. Two propositions that are treated as a single proposition, having been joined together by the relation of 'if' [first proposition], 'then' [second proposition].

Confirmation Bias. The preference for evidence which confirms one's assumptions; the deliberate resistance of evidence-which goes against one's assumptions.

Conflict of Interest. A situation where some person or organization has multiple interests (plans, duties, wants, etc), some of which are incompatible with each other; a situation where one interest may improperly influence how someone makes decisions regarding another interest. For example, a manager might hire a family member to a job, instead of a better-qualified candidate. The interests in conflict here are his professional duty to his employer, and his family responsibility. The presence of a conflict of interest can usually serve as a **prima facie** reason to cast reasonable doubt upon someone's decisions.

Conjunction. Two propositions that are treated as a single proposition, having been joined together by the Boolean Operator 'And'.

Conspiracy Theory. An explanation for events that depends on a story about a nefarious organization working in secret to harm the public and/or conceal facts from the public. The evidence for this story tends to be vague, ambiguous, explainable in simpler terms, or otherwise open to doubt. (See also: Extraordinary Claims, Reasonable Doubt.)

Continental Tradition. One of two dominant paths of Western philosophy in the twentieth century, characterised by Existentialism, Phenomenology, Hermeneutics, and Postmodernism. (See also: Analytic Tradition.)

Contradictories. Two propositions which cannot both be true at the same time, but also cannot both be false at the same time. (See also: Contraries, Subcontraries, Subalterns.)

Contraries. Two propositions which cannot both be true at the same time, although they can both be false at the same time. (See also: Contradictories, Subcontraries, Subalterns.)

Conversational Implicature. See Implicature.

Cultural Relativism. The belief that an idea is true, right, etc., because it is generally believed to be so by the members of some culture or society. In social science: The belief that everyone judges what is true, right, etc., according to their own culture(s), and no one stands outside of all cultures in a position of pure objectivity or neutrality. (See also: **Relativism, Personal Belief Relativism.**)

Dasein. Being-in-the-world; the particularly human experience of existence. A concept in metaphysics proposed by Martin Heidegger.

Deepity. A statement that sounds wise and important but actually has little or no meaning; a statement that has two meanings, one of which is true but trivial, and the other one sounds wise and important but is actually false.

Deduction (adj.: Deductive). A type of argument in which, if the premises are true, the conclusion must also be true. (See also: Induction, Argument.)

De Morgan's Theorems. A set of theorems in formal logic that show how some types of complex propositions can be swapped with simpler ones without loss of meaning. (See also: **Formal Logic.**)

Deontology: A branch of ethics that emphasizes duties, which may be imposed by nature, pure reason, God, or a similar source of moral authority.

Dialectic of the Absolute. A philosophical system developed by G.W.F. Hegel, in which all of history is framed as the work of a world-soul becoming aware of itself, and, in a series of iterations, expressing itself with increasing clarity, completion, and perfection.

Difference Principle. A theory of justice proposed by John Rawls, which holds that any inequalities in a society's distribution of wealth and power must be acceptable to whoever gets the smallest share; the most just distribution is that which gives as much benefit as it can to the society's worse-off members. (See also: **Thought Experiment, Matthew 25:40.**)

Dilemma. Ambiguous propositions; an argument with two or more possibilities which nonetheless lead to the same (usually unwelcome) conclusion.

Discourse Ethics. Principles of discussion or debate designed to ensure that argumentation is friendly, progressive, enlightening, and inclusive, and to prevent discussions from becoming unproductive shouting matches. (See also: **Argumentation, Paradox of Tolerance.**)

Disinformation. A form of propaganda that deliberately lies to the audience, in its content and/or its apparent source; a form of Propaganda that aims to capture its audience in a fictitious reality. (See also: **Fake News.**)

Disjunction. Two propositions that are treated as a single proposition, having been joined together by the Boolean Operator ‘Or’.

Doctrine of the Four Causes. A procedure of scientific reasoning developed by Aristotle. It involves explaining things and events in terms of four ‘causes’: Efficient, material, formal, and final. (See also: **Science.**)

Doctrine of the Mean. A theory proposed by Aristotle which states that for every virtue there are two vices: A vice of not enough of the corresponding virtue, and a vice of too much of it. (See also: **Arteology.**)

Doubt. See: Reasonable Doubt.

Dunning-Kruger Effect. A form of observer bias in which unskilled, poorly-skilled, or incompetent (at some task) people believe that they are smarter or more competent at that task than they really are. (See also: **Bias, Observer Bias.**)

Empiricism: A school of thought which holds that our most important source of knowledge is the experience of our physical senses, as well as the evidence of experiments with observable and mathematically quantifiable results.

Enlightenment (The). A movement in Europe’s intellectual history, spanning roughly from 1650 to 1789, in which science and reason gained greater public legitimacy and prominence, and enjoyed more power to persuade. The proponents of the movement aimed to use logic and science to solve philosophical, social, moral, and political problems, instead of resorting to theology, mysticism, or superstition. (See also: **Romanticism.**)

Enthymeme. A categorical **syllogism** in which one of the premises is missing. (See also: Argument, **Categorical Logic.**)

Epistemic Values. In science, a group of values proposed by Karl Popper which help distinguish Science from non-science; including falsification, mathematical quantifiability, use of experiments. (See also: **Science, Falsification.**)

Epistemology. The branch of philosophy that studies **Knowledge.**

Epoché (reduction, suspension, leading-back). A logical procedure invented by Edmund Husserl, in which one suspends judgements about the reality of things in order to study how they appear to one's perceptions. (See also: **Phenomenology, Continental Tradition.**)

Equivocation. A word or phrase that has two or more distinct meanings, and is used in those two or more senses within the same argument. (See also: **Fallacy.**)

Ethics. The branch of philosophy that studies moral rightness and wrongness, justice and injustice, character and virtue, and similar matters, as well as their practical applications.

Ethics of Care. The branch of ethics developed by various American feminists, which holds that one's most important moral responsibilities involve showing empathy and compassion to others, especially for those you are in an immediate position to help, in proportion to their vulnerability, and in proportion to the significance of their relationship to you.

Existentialism. A school of philosophy which holds that there is no intrinsic or pre-determined meaning in life and no pre-determined human nature, and which attributes high significance to individualism, freedom, and authenticity.

Extraordinary Claims. A proposition about facts or events which, while perhaps not impossible, are nonetheless wild, outlandish, and/or unlikely; claims which require extraordinary evidence. (See also: **Conspiracy Theory, Burden of Proof.**)

Fake News. Lies that are deliberately, not accidentally, broadcast in the mass media. Essays, articles, photographs, reports, etc., which are designed to appear like professional journalism, but which deliberately deceive their audience, for purposes such as political or commercial gain. It can come from media organizations (newspapers, broadcasters, etc.) whose entire business is to produce and spread it. It can also come from bloggers, YouTube video creators, and others who produce media content in their spare time. It is typically distributed by users of social media. (See also: **Propaganda, Alternative Facts.**)

Fallacy. A type of argument in which the conclusion does not follow from the premises because of a false premise or an invalid inference; a faulty argument; an error in **Logic**. Historically, philosophers have identified hundreds of fallacies; Chapter 7 of this textbook covers a typology of common ones. In a rational discourse, the aim of pointing out the fallacies in someone's speech should not be to embarrass or subdue that person, but rather to encourage that person to find a better argument.

Falsification. A principle of scientific reasoning invented by Karl Popper that aims to solve the problem of induction. The idea is to find the theory which is true by eliminating all theories which can be proven false. (See also: **Epistemic Values.**)

First Philosophy. A branch of philosophy considered fundamental, and of greater importance than the others; the branch whose questions must be settled before one can move on to the questions posed by other branches. Various philosophers or philosophical schools have held different branches to be ‘first’: Medieval **Scholasticism** held that **Metaphysics** goes first; Descartes said it’s **Epistemology**; Levinas claimed it’s **Ethics**. I myself think it might be **Phenomenology**, but I’m not yet sure.

Flouting a Maxim. In informal logic and discourse ethics, the act of deliberately breaking a rule of discourse ethics, without at the same time confusing one’s meaning or intentions. Informal signals such as physical gestures, tone of voice, or a reference to a social context, might accompany the words which flout the maxim, in order to clarify one’s intentions or meanings (and, often, to make one’s conveyance of meaning funny).

Formal Logic. The study of propositions, arguments, inferences, etc., and the rules for reaching deductively necessary conclusions, and/or inductively strong conclusions. Formal logic typically abstracts the content of an argument using a symbolic notation system, in order to make the structure of an argument clearer. (See also: **Symbolic Logic**.)

Framing Language. A narrative; a form of spin or slant placed on a story or an account of things; the words, phrases, metaphors, symbols, definitions, grammatical structures, questions, and so on, which we use to think, speak of, and understand things in a certain way; the contexts, narratives, and intangible structures of meaning which both surround our worldviews and at the same time inform them. (See also: **Worldview, Informal Logic**.)

Game Theory. In mathematics, the study of the competitive and cooperative interactions of decision-makers, where the results of each person’s decisions also depend at least partially on the decisions of others, and where the people involved may or may not have information about each other’s decisions. An early game-theoretical argument called Pascal’s Wager goes slightly differently. In that argument, there isn’t a lack of information about the other party’s decisions. Rather, there is a lack of information about whether the other party exists at all.

Godwin’s Law. An eponymous law describing people’s behaviour in online discussion forums, coined in 1990 by Mike Godwin. It states that ‘As an online discussion grows longer, the probability of a comparison involving Hitler approaches 1.’ Variation: Once a discussion reaches a comparison to Hitler or the Nazis, its usefulness is over. Note that Godwin’s Law may not apply to discussions about persons who really are Nazis, and/or persons who really are calling for the social exclusion or the death of some group of people because of that group’s ethnicity, religion, sexual orientation, and so on. (See also: **Discourse Ethics**.)

Habits of Thinking. Patterns of using informal logic, including good habits like curiosity, self-awareness, skepticism, etc., and bad habits like saving face, Relativism, stereotyping, and laziness. (See also: **Informal Logic**. A longer list of good and bad thinking habits is the topic of Chapter 3 of this textbook.)

Hermeneutics. The branch of philosophy that studies how we interpret cultural materials, especially texts. There is a notable hermeneutic tradition among scholars of religious texts like the Bible, but hermeneutics can also apply to other texts.

Hypothesis. In science, it is an educated guess; a **Prima Facie** explanation for things or events that could be put to some kind of experimental or empirical test. (See also: **Science, Epistemic Values, Theory.**)

Implicature. In informal logic and in discourse ethics: A group of values developed by philosopher Paul Grice, which help make it easier for others to understand the meaning of one's statements and expressions. (See also: **Flouting a Maxim.**)

Incompleteness Theorem. A mathematical theorem by Kurt Gödel which shows that in any given set (of numbers, etc.) there will still be at least one axiom which cannot be defined in terms of that set.

Indicator Words. Words like 'because', 'given that', 'it follows that', 'therefore', etc., which indicate to a listener where the premises and conclusions are.

Induction (adj.: Inductive). A type of argument in which, if the premises are true, the conclusion is probably true. (See also: **Deduction, Argument.**)

Inference. The logical relations between propositions in an argument. (See also: **Validity, Strength.**)

Informal Logic. Principles of reasoning which assist one's practical everyday decisions; principles of logic which use flexible and general rules for reaching conclusions.

Information Literacy. Practical knowledge of the way that information is framed, transmitted, legitimised, shared, etc., in the mass media; techniques of **reasonable doubt** applied to information that comes from mass-communication technologies and industries.

Intellectual Environment. The site or location where thinking takes place; the ideas and beliefs that prevail in any given social group or cultural community. (See also: **Worldview**)

Justice. In ethics generally, this is the study of the rightness or wrongness of the power relations in a community or social group, including the rightness or wrongness of the distribution of wealth, honour, resources, and/or punishments. In Virtue ethics/**Areteology** it refers to the virtue of giving to others what you owe to them and requiring from others what is owed to you; the virtue that helps individuals recognise fairness in their give-and-take relations with others.

Knowledge. Information, together with one's awareness of possessing or processing it; the substance or the material of one's thinking (as distinct from the methods or procedures of thinking); information that one accepts and embeds in one's mind by means of a process of reasoning; a kind of potentiality for thought or feeling or action, embedded in one's mind by a process of reasoning. In analytic philosophy: Justified true belief. (See also: **Logic, Reason, Epistemology.**)

Limit Situation (From German: *Grenzsituation*). A situation in life, as described by philosopher Karl Jaspers, wherein one confronts the narrowness of one's usual way of thinking; a situation in which one's usual worldview is shown to be unhelpful or faulty; an event which prompts or demands a new way of thinking. (See also: **Informal Logic, Worldview.**)

Logic. The procedures of good (correct, **Sound**, consistent) thinking; the procedure of thinking which begins with good questions and clear premises, and then moves from those premises to various deductively necessary or inductively prompted conclusions.

Logical Positivism. (See: Positivism.)

Logos. (From Greek: A saying, a speech, an account, a rationale, a word.) According to Heraclitus and other philosophers of the classical Greek era, Logos is a name for the organizing principle of the universe; it comprises the basic patterns by which all things are governed and by which all things can be understood. In Christian thought, Logos is related to the nature of God (cf. John 1:1). The word Logos is also the etymological root of the English word *logic*, and of the suffix *-ology* (as in psychology, anthropology, etc.) (See also: **Logic.**)

Mere Repetition Bias. A type of observer Bias in which one comes to believe something only because one has seen or heard it frequently, for a long time, and for no other reason. (See also: Intellectual Environment, Disinformation, Observer Bias.)

Metanarrative. A story about stories; a story which connects other stories together; a body of beliefs or commitments which influences how events are interpreted or how discussions are framed; a major part of a worldview. (See also: **Worldview, Framing Language, Narrative.**)

Metaphysics. The branch of philosophy that studies being, human nature, freedom and free will, God, death, and other matters of ultimate reality.

Methodological Doubt. In epistemology, a procedure of reasoning developed by René Descartes, in which one assumes that if there is any reason to doubt something it should be assumed to be false. If, by this process of elimination, a thinker encounters something that they cannot doubt, that indubitable thing would become the foundation of all knowledge.

Modernism. School of thought characterised by confidence in universal values, especially those related to scientific reasoning, technological and social progress, freedom, democracy, capitalism, secularism, and individualism. (See also: **Postmodernism**)

Modus Ponens. In formal logic, a standard pattern of argument that takes this form: If P then Q; P, therefore Q.

Modus Tollens. In formal logic, a standard pattern of argument that takes this form: If P then Q; not-Q, therefore not-P.

Moral Statement. A proposition that says something about what's good or evil, just or unjust, virtuous or vicious, etc.

Narrative. A story; a body of knowledge organized in the form of a story; an interpretation of events that takes such a form. (See also: **Worldview, Framing Language, Metanarrative.**)

Naturalistic Fallacy. A form of bad reasoning, in which propositions about facts lead to inappropriate conclusions about morality. An early version of this was David Hume's Is-Ought Problem. The fallacy in its most widely accepted form was introduced by G.E. Moore in 1903. (See also: **Fallacy.**)

Necessary Condition. In science and in analytic logic, a condition which must be the case in order for a proposition to be true. (See also: **Science, Sufficient Conditions.**)

Negation. A proposition which asserts that something is not the case. (See also: **Proposition.**)

Nocebo Effect. The self-generated experience of pain, or the medical symptom of some disease when one is not physically injured or sick. This effect is triggered when the subject in a clinical trial has been administered an inert substance that she believes may have harmed her; a self-generated 'side effect' that a trial subject might experience; the opposite of a placebo. (See: **Observer Bias.**)

Objectivity (adj.: Objective). A way of thinking or a state of mind in which one is as free as possible from the influence of personal feelings, biases, expectations; a way of thinking which observes events as an uninvolved or disinterested third-person observer would see them. Note that objectivity in this **sense** has no relation to 'Objectivism', the worldview of American novelist Ayn Rand. (See also: **Bias.**)

Ockham's Razor. A requirement of logical simplicity, attributed to William of Ockham; the requirement that in argumentation there should be 'no unnecessary repetition of identicals'. In Bertrand Russell's formulation: 'The explanation with the fewest assumptions tends to be the truth.' In pop culture: 'The simplest explanation tends to be the truth.'

Overdetermination. In science, a theory which is confirmed by more evidence than is needed. (See also: **Science, Underdetermination.**)

Parable. A work of intellectual imagination, in which a story is told in order to teach something or draw attention to facts and concepts that the speaker wishes emphasized, or which serves as part of a Thought Experiment.

Paradigm. A worldview in relation to science and scientific method. As defined by Thomas Kuhn, it is the sum of the facts, predictions, and methods which guide a scientist's work.

Paradigm Shift. The period of time during which a sufficiently large number of anomalies in the observed results of routine scientific work causes scientists to doubt, and possibly to reject, their current paradigm; this period of doubt (a 'crisis', to use Kuhn's terminology) often leads to the adoption of a new paradigm.

Paradox. An argument which has true premises and valid inferences, yet nonetheless appears to produce a wrong conclusion.

Paradox of Tolerance. This is the situation described by Karl Popper in which it can become necessary to exclude a belligerent person from a discussion in order to preserve the inclusiveness of the discussion. It is part of **Discourse Ethics**.

Pareidolia. A psychological phenomenon in which one perceives patterns in the world which aren't really there. Usually, pareidolia is associated with visual perceptions, such as the appearance of a human face in the bark of a tree. It can also apply to the perception of non-existent or poorly-evidenced patterns in a social world or a media environment, leading to conspiracy theories, prejudices, etc. (See also: **Skepticism, Observer Bias.**)

Parrhesia. (Greek: Bold speech). A true statement which incurs some danger for the person who utters it. A person who utters bold speech is called a Parrhesiastes. (See also: Whistle-blowing.)

Pascal's Wager. An early form of **Game Theory** developed by Blaise Pascal, which purports to show why it is rational to believe in God. A simplistic version of it might go like this: It is better to believe in God because if God does exist and you don't believe, the consequences for you would be worse than if God does not exist and yet you do believe.

Perceptual Intelligence. An intellectual exercise which takes place beneath one's conscious notice, in which present events are compared to similar past events, and then a conclusion is drawn about what is likely to follow from present events; this conclusion is reported to the conscious mind in the form of a 'hunch', an 'instinct', or a 'gut feeling'.

Personal Belief Relativism. The belief that an idea is true if someone believes it, and further that it is true only for the person or people who believe it. (See also: **Relativism, Cultural Relativism.**)

Phenomenology. The philosophical study of the structures of consciousness, from the first-person point of view. (See also: **Continental Tradition.**)

Philosopher. Broad meaning: Any person who practices philosophy. Narrow: A professor of philosophy; a person who has earned or is pursuing a graduate degree in philosophy. Historical: A public menace, a threat to all social and moral values, a corruptor of the young. Socratic: A gadfly who rouses a sluggish society into a more examined life. Nietzschean: A terrible explosive that endangers everything.

Philosophy (From Greek: *Philia sophia*, the love of wisdom; the friendship with knowledge). The pursuit of answers to the highest and deepest questions by means of logic and systematic critical reason.

Pickle. An especially vexing problem; an unpleasant social or interpersonal situation that seems hard to escape from; an unexpected turn of events which makes it harder to accomplish something. Actually, I just thought it would be fun to include the word ‘pickle’ in this glossary. (Synonyms: Fine Kettle Of Fish, Sticky Situation, Bind, Box, Jam, Tight Spot.)

Poe’s Law. Identified in 2005 by Christianforums.com participant Nathan Poe, this law states that: ‘Without a winking smiley or other blatant display of humour, it is utterly impossible to parody a Creationist in such a way that *someone* won’t mistake for the genuine article.’ More generally, Poe’s Law states that without some obvious indicator of the author’s intent (such as a smiley or an emoticon), parodies of extremist views in any field might still be mistaken for a real view.

Poisoning the Well. A variation of the Genetic Fallacy and the *ad hominem* fallacy; a way of **framing** a debate to ensure that all ideas and arguments from a particular person or source are pre-emptively dismissed, or treated with unnecessarily severe suspicion. It is a way of attacking someone’s honesty or reputation before that person presents any of her ideas, and so undermining the possibility of continued rational discussion. (See also: **Fallacy, Framing Language.**)

Positivism, Logical Positivism. A position or a tendency of analytic philosophy which holds that propositions are meaningful only if they refer to something in the observable world, and if they can be shown either true or false.

Postmodernism. Incredulity toward metanarratives. A position or tendency of philosophical thought characterised by radical skepticism of any truths, worldviews, narratives, and values which claim to be ‘universal’. Also characterised by the analysis and criticism of those

universal values by way of historical or social contexts, outsider positions and experience, relativism, and irony. (See also: **Modernism, Continental Tradition.**)

Post-Truth (Era of). Some cultural critics say that in our times, objective facts are less influential in shaping public opinion than appeals to emotion and personal belief. (See also: **Fake News, Alternative Facts, Truthiness, Rhetoric.**)

Practical Imperative. A principle of ethics proposed by Immanuel Kant: ‘Act in such a way that you always treat humanity, whether in yourself or in another, as an end in itself, never as a means to an end.’ (See also: **Deontology, Categorical Imperative, Ethics.**)

Pragmatism. A theory of truth developed by Charles Sanders Peirce, which holds that propositions can be true if they happen to be empirically useful to believe. Note that this theory of truth was meant to apply especially to empirical propositions (that is, propositions about observable facts), and not social or ethical ones. (See also: **Theory of Truth.**)

Premise. A proposition given in support of a conclusion. (See also: **Argument.**)

Prima Facie. (Latin: ‘At first glance’ or ‘on the face’). A conclusion one might draw about things or events from a brief or superficial inspection before investigating more deeply.

Principle of Charity. A professional courtesy among philosophers: The assumption that other people are rational unless there are good reasons to assume otherwise; the practice of interpreting other people’s arguments in the best possible light.

Problem of Induction. A logical puzzle identified by David Hume. It states that all inductive arguments that aim to predict something about the future rest on hidden and indefensible premises about past experiences. (See also: **Falsification, Skepticism.**)

Propaganda. A communication from any political organization (government, churches, corporations, charities, etc.) intended to raise public support for its projects. Most people today use the word in a pejorative or ironic sense.

Proposition. A statement; a claim. In analytic logic, a simple sentence that has only one meaning, which can be either true or false.

Propositional Logic. A branch of formal logic involving propositions and argument structures of various kinds, some Deductive and some Inductive; any type of argument in formal logic that doesn’t fall under **Categorical Logic.**

Questions. You already know what questions are, but I think it’s awesome that you’re reading this glossary. Cheers!

Reason, Rationality. Organized curiosity. The capacity of the human mind to understand the world and to make deliberate responsible choices ('responsible' in the sense that one is 'able to respond' when asked to explain oneself); the process of rendering the world intelligible. As a singular noun ('a reason'), it is an explanation or a justification for one's ideas or beliefs. As a verb ('to reason') it is the activity of investigating and understanding; the activity of discussing things with others so that participants can teach and learn from each other, and/or come to agreement with each other.

Reasonable Doubt. Healthy skepticism; the suspension of acceptance of some statement or proposition, due to an absence of sufficient support for it. (See also: Skepticism.)

Rectification of Names, The. An ethical and logical principle attributed to Confucius, which requires people to use appropriate and correct words to describe their plans and situations.

Reference. The contribution to the meaning of a proposition that derives from the definition of words, and from the events or things in the world those words indicate. (See also: **Sense**).

Relativism. The belief that a claim is true or false only in relation to some other condition; the belief that no claim is absolutely true for all times places and people, nor absolutely false for all times, places and people. Relativism is often well-intentioned: For instance, it may help people with different worldviews understand each other and coexist in peace. However, it can also obscure or derail the search for truth, and it can serve as a justification for prejudice, bad thinking habits, and value programs generally. (See also: **Cultural Relativism, Personal Belief Relativism**.)

Rhetoric. The art of effective persuasion, especially in speaking and writing; the use of composition techniques and figures of speech to impress or influence an audience, possibly with little concern for what is truly right or wrong, and/or what the speaker actually believes.

Rhetorical Question. A proposition phrased in the form of a question, for which the speaker usually expects a very specific answer. (See also: **Rhetoric**.)

Romanticism. This was a movement in Europe's intellectual history spanning roughly from 1750-1850, which served as a counterpoint to the Enlightenment. It held that art, passion, feeling, imagination, and especially struggle, were the most important sources of knowledge and meaning in life, both personally and politically. (See also: **Enlightenment**.)

Sample Size. In inductive logic, and especially in inductive arguments concerning statistics, the sample size is the number or the fraction of the members of a group one studies in order to draw conclusions about all members of the group. Errors in logic follow when the sample size is too small to be indicative of properties of the larger group. (See also: **Induction**.)

Scholasticism. The dominant school of thought in Europe's Middle Ages, which demanded strict logical deduction and aimed to unite classical Greek and Roman philosophy with Christian theology. (See also: **Doctrine of the Mean, Logos, Syllogism.**)

Science. (From Latin: *Scientia*, knowledge). Procedures for reasoning about the nature of the world using evidence, experiments, mathematical quantification of experimental results, and the testing of Hypotheses.

Sense. The contribution to the meaning of a proposition which comes from the context in which the proposition is uttered. (See also: **Reference, Worldview, Intellectual Environment.**)

Self-interest. In economics, this is the central assumption about human nature and rational decision-making. In logic, this is a type of bad thinking habit, typically leading to observer bias—especially when disconnected from ethics or from objectivity. (See also: **Habit of Thinking.**)

Skepticism. Unwillingness to accept that (some) things are (always) as they appear to be. Unwillingness to accept that which is not obviously evident, or that which requires extraordinary evidence, without further investigation. Unwillingness to accept the views of others, no matter how earnestly those views are believed and no matter how numerous the believers, if one finds the reasons for those views are not strong enough, or if there are simpler reasons backed with better evidence that supports different views. (See also: **Habits of Thinking, Reasonable Doubt, Informal Logic, Ockham's Razor.**)

Social Contract. A theory of Justice proposed by Jean-Jacques Rousseau, which holds that all the members of a given society are involved in a contract relationship with one another, in which individual members owe various responsibilities to the group, and the group provides various benefits to the individual members.

Socratic Dialogue. This method of logical enquiry was developed by Socrates: One person poses philosophical questions to the other, not only to discover acceptable answers, but also to find logical inconsistencies or other **Aporia**.

Socratic Wisdom. The knowledge of one's own ignorance; the knowledge of the limits of one's knowledge; the knowledge that one knows nothing of great importance.

Sophistry. The use of Logic, and also logical Fallacies, to dominate debates and/or to deceive people; argumentation which, on a superficial level, appears sound, but upon closer inspection is shown to be unsound. (See also: **Rhetoric.**)

Statement. See Proposition.

Stoicism. (adj.: Stoic.) A school of thought in classical Greece and Rome, founded by Zeno of Citium (336-264 BCE), which holds that the cosmos is governed by an all-unifying rational order, comparable to the Logos but perhaps closer to *Nous* (Greek: ‘Mind’); and that happiness comes from letting go of that which we cannot control.

Strength. In analytic logic, a property of correct inferences in **Inductive** arguments.

Soundness. In analytic logic, a property of arguments as a whole; a property of arguments which have true premises and valid (or strong) **Inferences**.

Subalterns. In formal logic, this refers to two statements which can both be true at the same time because one of them is a universal statement and the other is particular statement that is implied by the universal. (See also: **Contraries, Contradictories, Subcontraries**.) Note that ‘subaltern’ in this sense has no relation to the theory of the same name proposed by philosopher and sociologist Antonio Gramsci.

Subcontraries. Two statements which could both be true, but which cannot both be false. (See also: **Contraries, Contradictories, Subalterns**.)

Subjective Relativism. (See also: Personal Belief Relativism.)

Sufficient Conditions. In science and in analytic logic, a condition which—if fulfilled—is enough to make a proposition true. (See also: **Necessary Conditions**).

Syllogism. A type of formal argument pattern that was the most important type of argumentation from the time of its invention by Aristotle until the rise of Empiricism. It consists of three categorical propositions: The first is the major premise, the second is the minor premise, and the third is the conclusion. (See also: **Categorical Logic, Categorical Proposition, Scholasticism, Argument**.)

Symbolic Logic, Symbolic Language System. A procedure of simplifying and clarifying arguments using symbols to represent propositions and logical relations, first developed by Gottfried Leibniz and further developed by various philosophers in the analytic tradition.

Synthetic Proposition. A logical proposition which expresses two or more thoughts, combined (synthesized) together. (See also: **Analytic Proposition**.)

Tautology. A proposition or argument which is true because of its logical form alone; an argument in which the premises and conclusion have exactly the same meaning, and therefore nothing may be concluded.

Theory. In science, an explanation of things or events which has thus far resisted all attempts to prove it false; the best explanation of things or events scientists presently work with. (See also **Science, Hypothesis.**)

Theory of Truth. A theory that attempts to explain how one might find out whether a given proposition is true.

Thought Experiment. A work of intellectual imagination, in which concepts or problems are clarified, special attention is drawn to unexpected or unusual facts, or questions are cast into a clear light. Questions posed by thought experiments are not always easily answerable; there can be more than one good answer, and there could also be no answer at all. (See: **Parable.**)

Truth. In analytic logic, a property of propositions. (See also: **Theory of Truth, Deepity**, your nearest **philosophy** professor, or your nearest source of overwhelming beauty. I prefer meadows and forests, art galleries, live music shows, and some of Einstein's field equations. You might prefer a well-played goal in your favourite sport. Or tomorrow morning's sunrise. The **Romantic** poet John Keats said: 'Beauty is truth, truth beauty—that is all ye know on earth, all ye need to know.' Was he right? Or was T.S. Eliot right to say that line was meaningless? I should get back to writing this glossary.)

Truthiness. A property of sentences, arguments, discussions, ideas, etc., that feel like they're correct, regardless of facts, evidence, or Logic. A tactic for appealing to intuitions, feelings, 'gut feelings', and prejudices, to make someone believe that something is true.

Underdetermination. In science, an observation that confirms more than one theory. (See also: **Science, Overdetermination.**)

Undistributed Middle. A **fallacy** that arises when the middle premise of a **categorical syllogism** has not been placed in its proper position in the first and second premises.

Utilitarianism. A branch of ethics that emphasizes consequences, outcomes, and results.

Validity. In analytic logic, a property of correct inferences in **Deductive** arguments. Not to be confused with **soundness**.

Value Program. A type of worldview, as described by philosopher John McMurtry, that allows for no critical examination of its most important moral values, and which justifies the harms caused by its believers. (See also: **Worldview, Ethics.**)

Venn Diagram. A visual method of testing the soundness of categorical syllogisms, that uses overlapping circles.

Virtue, Virtue Theory. (See Areteology.)

Weasel Words. Statements or phrases that are deliberately ambiguous; statements or phrases which, while not actually false, nevertheless give the listener a misleading picture of the facts.

Whistle-blowing. A form of Parrhesia; the act of drawing public attention to some kind of moral wrongdoing or illegal act in one's workplace, or a community.

Worldview. In informal logic: The sum of one's answers to the highest and deepest questions in life; the intellectual narrative in terms of which the actions, choices, and purposes of individuals and groups make sense; a mindset; a way of perceiving and interpreting things; a way of thinking; that which is revealed by the use of a framing language. Attributed to Albert Schweitzer, who defined it as: 'The content of the thoughts of society and the individuals which compose it about the nature and object of the world in which they live, and the position and the destiny of mankind and of individual men within it.' (See also: **Narrative, Metanarrative, Framing Language, Limit Situation, Intellectual Environment, Philosophy.**)

Zeno's Paradoxes. A group of contradictory and/or perplexing sayings, attributed to the early Greek philosopher Zeno of Elea, which seem to show logical problems in everyday events such as motion through space. (See also: **Aporia, Paradox.**)