

# PHIL2642 Critical Thinking

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## Lecture 4

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# Week 5 test

- You will be doing an online assessment quiz at 10am Sydney time on Thursday 1<sup>st</sup> September. This will take up the first hour of our lecture that week.
- (Email me for alternative arrangements if you are in a very different time zone.)
- It is a one hour test worth 20% of your final mark. Most questions are short answer, some are multiple choice. They cover the material from weeks 1-4.
- The quiz will become available on the Canvas website for PHIL2642 at 10am. You need to be set up somewhere with good internet where you can work uninterrupted for 1 hour. You can find the test by clicking on Quizzes.
- You need to prepare for this test by reading over the lecture notes, doing the tutorial exercises, and doing the practise exercises on the unit webpage.

# Meaning

Often in an argument we need to clarify the meaning of a word.

How can we get at the meanings of words?

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**Three Theories of Meaning:**

- Reference theory
- Descriptive Theory
- Use theory

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**The Reference Theory of Meaning:** According to the reference theory of meaning, the meaning of a word is the object, property, event or state of affairs to which it refers.

“Sydney” means this city here. “Dog” means the class of dogs.

# A Problem for Reference Theory



- “Clark Kent will save the day.”

- “Superman will save the day.”

- According to a reference theory of meaning, these two sentences have exactly the same meaning.

- But Lois understands both sentences and believes only one of them.

- Other problems: unicorns, logical connectives.

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# Descriptive Theory

- **Descriptive theory of meaning:** Words and phrases refer to things by containing implicit or explicit descriptions of those things.

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- Reference theory: pointing, attaching a label to a thing or group of things

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- Descriptive theory: describing, saying things that are true of x, listing properties possessed by x.

# Descriptive theory



- “Clark Kent” means mild-mannered journalist for Daily Planet, etc.

- “Superman” means Man of Steel who can leap tall buildings in a single bound, etc.

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# Sense and Reference

- Philosophers (following Frege) call this implicit description the **sense** of a term, as opposed to the **reference** of a term. (This is equivalent to the distinction between the **intension** of a concept and the **extension** of a concept. The extension is the thing or things the concept points to, and the intension is the implicit description by which it points to its extension.)
- According to the descriptive theory of meaning, words refer to objects via their senses, and the meaning of a word is the sense of the word.

# Problems for Descriptive Theories

- Don't descriptions run out at some point?

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- E.g. What is the meaning of “red”? Don't we point rather than describe when we try to teach someone the meaning of “red”?

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- Logical connectives such as “and”, “if ... then”, and “not” don't seem to fit a descriptive model.



# Use Theory of Meaning

- **Use theory of meaning:** Words and phrases have meanings in sentences, and their meanings are determined by the proper use of those sentences. [Assignment Project Exam Help](#)

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- This seems better for logical connectives. E.g. “If ... then ...”, and “or”.  
Dave should go or Trev should go. [Add WeChat powcoder](#)
- Practical relevance for Critical Thinking:
- These three theories of meaning indicate several ways in which we can try to clarify the meanings of words.

# Examples

- If you are designing an engine without fuel injection, you had better include a carburettor. This engine does not have fuel injection, so you should include a carburettor.

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- Communism sounds fair in theory, but in practice ordinary people who live under a communist regime have no political representation. For all of its flaws, democracy gives ordinary people political representation, so it is preferable to communism.

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# Examples

- Scientist: Darwinism is the theory that gives the correct explanation for the existence of the various species of plant and animal.
- Creationist: The scientist and I agree that Darwinism is a theory, and so is Creationism. In this respect they are equal, so no one can claim to know that either is true. The choice between them is a matter of faith.

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- Dave: What you see on the TV show Big Brother is not real.
- Trev: Yes it is. Everything that they show on screen really happens. None of it is faked.
- Dave: Of course it is faked. As soon as someone points a camera in your face, what happens is fake.

# Forms of Definition

- Sometimes we define a term by giving a **synonym**, i.e. a word or term that has the same meaning as the initial term.
- **What is a bogan? What is a Tory?**
- **A bogan is a Westie. A Tory is a conservative.**
- **Let's go out and get leathered.**



- **"Getting leathered" means getting drunk.**

# Subclass Definition

- Defining via synonym requires prior understanding of the meaning of the other term.

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- Another kind of definition that relies heavily on prior understanding is **genus-species definition**, which defines something by describing it as a subclass of a broader class.

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- e.g. a **Philips-head screw** is a screw with a cross-shaped indent on the head.
- **Sunglasses** are eye glasses with tinted lenses.
- **A father** is a male parent.

# Ostensive Definition

- **Ostensive definition** consists of pointing out the thing referred to by the term that requires definition. In some cases, ostensive definition is the most useful form available.
- e.g. **What is the Charleston?**

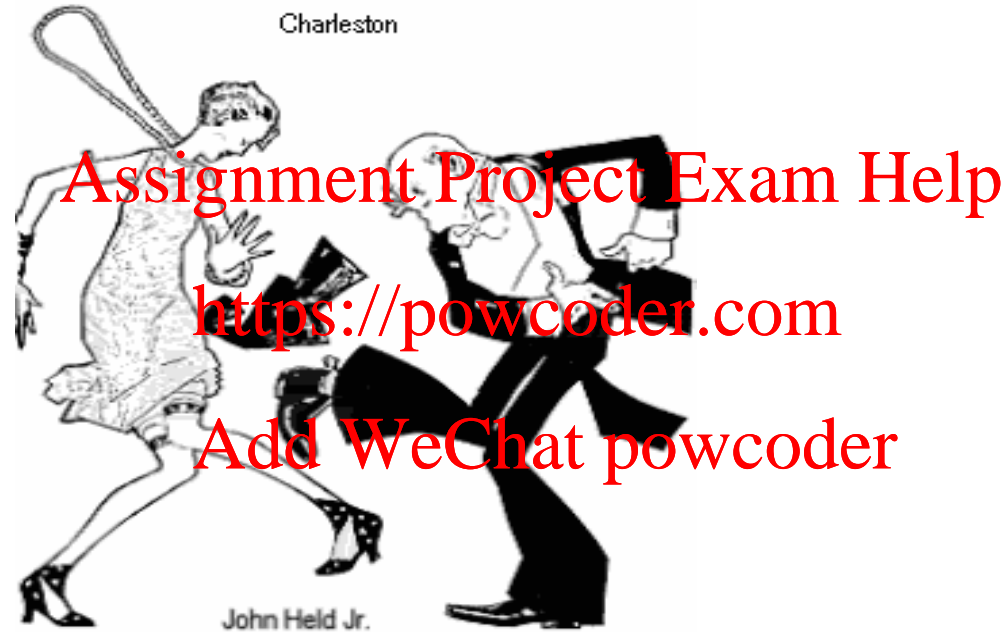
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"the basic step resembles the natural movement of walking, though it is usually performed in place. The arms swing forward and backwards, with the right arm coming forward as the left leg 'steps' forward, and then moving back as the opposite arm/leg begin their forwards movement. Toes are not pointed, but feet usually form a right angle with the leg at the ankle. Arms are usually extended from the shoulder, either with straight lines, or more frequently with bent elbows and hands at right angles from the wrist (characteristics of many African dances). Styling varies with each Charleston type from this point, though all utilise a 'bounce'." (Wikipedia)

# Define by pointing to an example...



<https://www.youtube.com/watch?v=pUpAcPAipDA>

# The jitterbug

- Al Minns: "The jitterbug... We called people who would just jump on the floor, without any knowledge of what they were doing, and go mad with the drumming what not and just go boodedoo boodedoo doo and shakin' their head and just jump up and down without any control ... that's what we called the jitterbug."

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- Not very helpful. How about an ostensive definition?
- <https://www.youtube.com/watch?v=EDeg7aovHW4>



# Define the following:

**A cricket ball**



**A spandrel**



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# Problems for Ostensive Definition

- It's THIS! (Which this?)
- Solution: Point to multiple examples. Point out what it is not.
- Can we define “gene” or “justice” or “average” by ostension?

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- **There are some things we can't point to!**
- **There are some things we can point to, but seeing them doesn't help us to understand what they are.** E.g. carburettor.
- **Other options?**
- **Use in context** can also help to clarify the meaning of terms.

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# Descriptive Definition

- **Descriptive definition** consists of offering a description which captures the meaning of the term. This can either be a description of the things referred to by the term, or a description which captures the sense of the term.
- **A good descriptive definition will apply to ONLY the things to which the defined term refers.** (i.e. The description will be true of only the things to which the defined term refers.)
- e.g. **What does the word "car" mean?** We might offer a descriptive definition in response to this question: **a car is a machine on wheels whose function is to transport people.**
- Counterexamples: skateboards, bicycles, trains.

# Descriptive Definition

- **A good descriptive definition will apply to ALL of the things to which the defined term refers.**

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- e.g. A car is a machine <https://powcoder.com> with more than 2 wheels, driven by a petrol engine, whose function is to transport up to roughly 8 (?) people on roads.

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- The only things this description applies to are cars, but it is not a good descriptive definition because it does not apply to ALL cars. e.g. To cars which are not driven by petrol engines.

This is a car but it does not have a petrol engine

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# Descriptive Definitions

- So, a **good descriptive definition of a term will apply to all and only the things referred to by that term**. It tells us what is necessary and what is sufficient in order for something to be the kind of thing to which the term refers.

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- Let us suppose that F is the term we want to define and G is the descriptive definition. If the definition is a good one, then all F's are G's and only F's are G's. This is equivalent to "If a is F then a is G and if a is G then a is F".

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- A **biconditional** is expressed as:
- "If p then q and if q then p", or
- "p if and only if q", or
- "p iff q" (the "iff" is read as "if and only if").

# What is a plumber?

- **Defn:** a person whose job directly involves installing or repairing piping, fixtures, and appliances in connection with the water supply, drainage systems, etc., both in and out of buildings.

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- If you are a plumber then you are a person whose job directly involves installing or repairing piping, fixtures, and appliances in connection with the water supply, drainage systems, etc., both in and out of buildings.
- If you are a person whose job directly involves installing or repairing piping, fixtures, and appliances in connection with the water supply, drainage systems, etc., both in and out of buildings, then you are a plumber.
- You are a plumber iff you are a person whose job involves installing or repairing piping, fixtures, and appliances in connection with the water supply, drainage systems, etc., both in and out of buildings.

# Other examples

- X is a piglet iff X is a baby pig

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- X is a kite iff X is a light frame covered with some thin material, to be flown in the wind at the end of a long string.

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- We often have to use descriptive definitions to convey the meaning of slang terms, e.g. “He was skiing downhill and then it was a yard sale.”
- Yard sale = to fall while skiing or snowboarding, leaving a trail of gear behind you
- An ostensive definition: <https://www.youtube.com/watch?v=gu9gCLXAlZQ>



# Philosophical Analyses

Philosophical attempts at informative definitions:

- Knowledge is justified true belief.
- Justice is the will of the stronger.
- Causation is constant conjunction.

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These analyses are equivalent to:

- X is knowledge if and only if X is a justified true belief.
- X is just if and only if X is in accordance with the will of the stronger.
- X causes Y if and only if X is constantly conjoined with Y.

# Counterexamples and Definitions

- **If you are Russian then you live in Russia.**
- Counterexample: A Russian who does not live in Russia.

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- Since descriptive definitions are supposed to be biconditionals, there are **two kinds of counterexample** which would undermine such a definition.

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- One kind of counterexample to the biconditional "p iff q" would be **a possible case in which p was true but q false**, and another would be **a possible case in which q was true but p false**.
- **X is a fire engine iff X is a red vehicle that is housed in the fire station.**

# Narrow or Broad

- If the term being defined applies to things to which the descriptive definition does not apply, then the definition is **too narrow**.
  - If the descriptive definition applies to things to which the term being defined does not apply, then the definition is **too broad**.
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- A definition of “bachelor”: a never-married male human.
  - A definition of “bachelor”: a never-married, bearded male adult human.
  - X is a human if and only if X is a two-legged animal.

# Examples

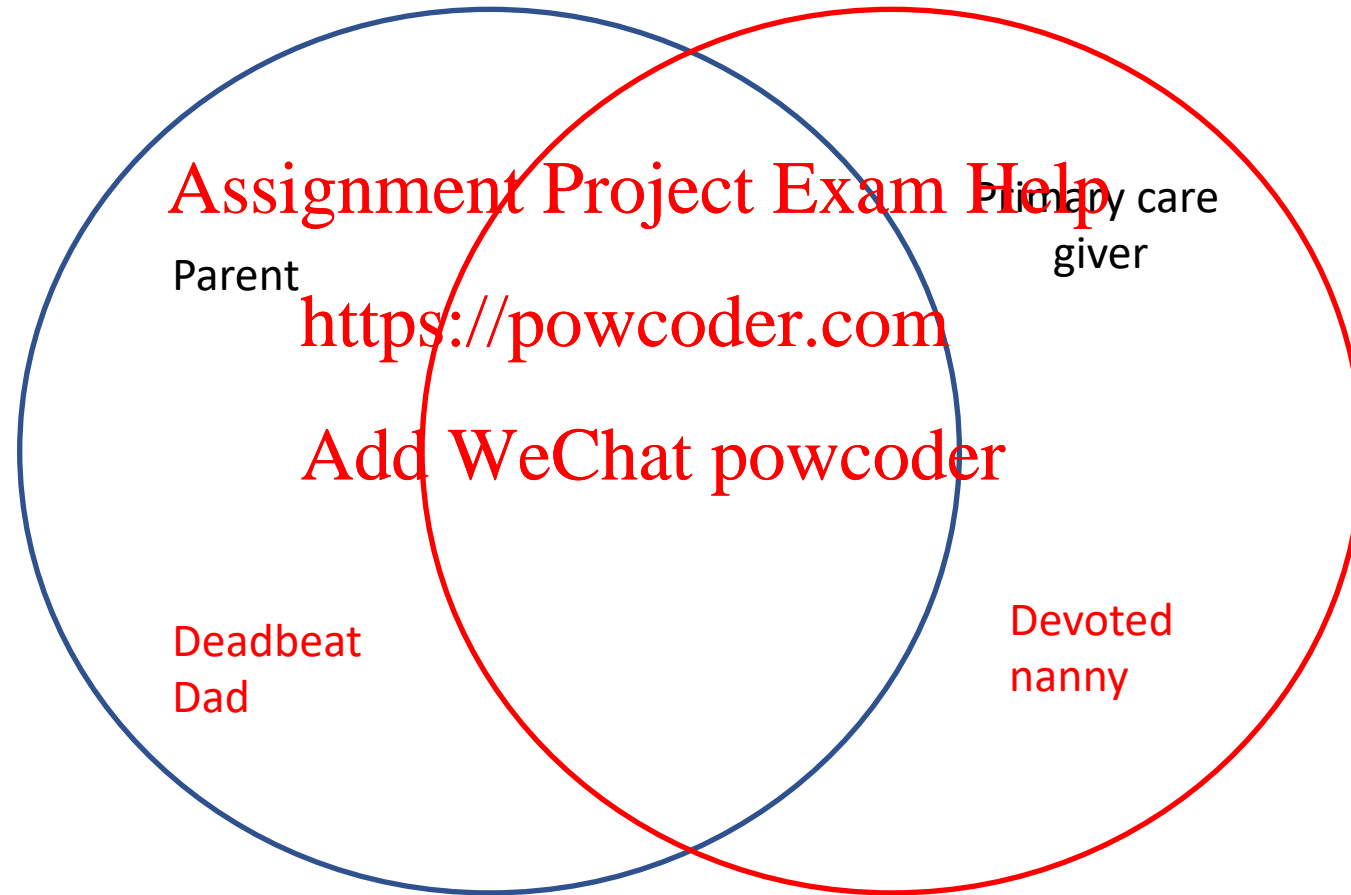
- Parent of child = primary care giver of that child
- Water = H<sub>2</sub>O
- Whale = big fish that eats plankton
- Chimpanzee = hairy primate
- Murderer = a person who kills another person
- Fire extinguisher = red cylinder filled with sprayable foam

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Parent of child = primary care giver of that child



Water = H<sub>2</sub>O

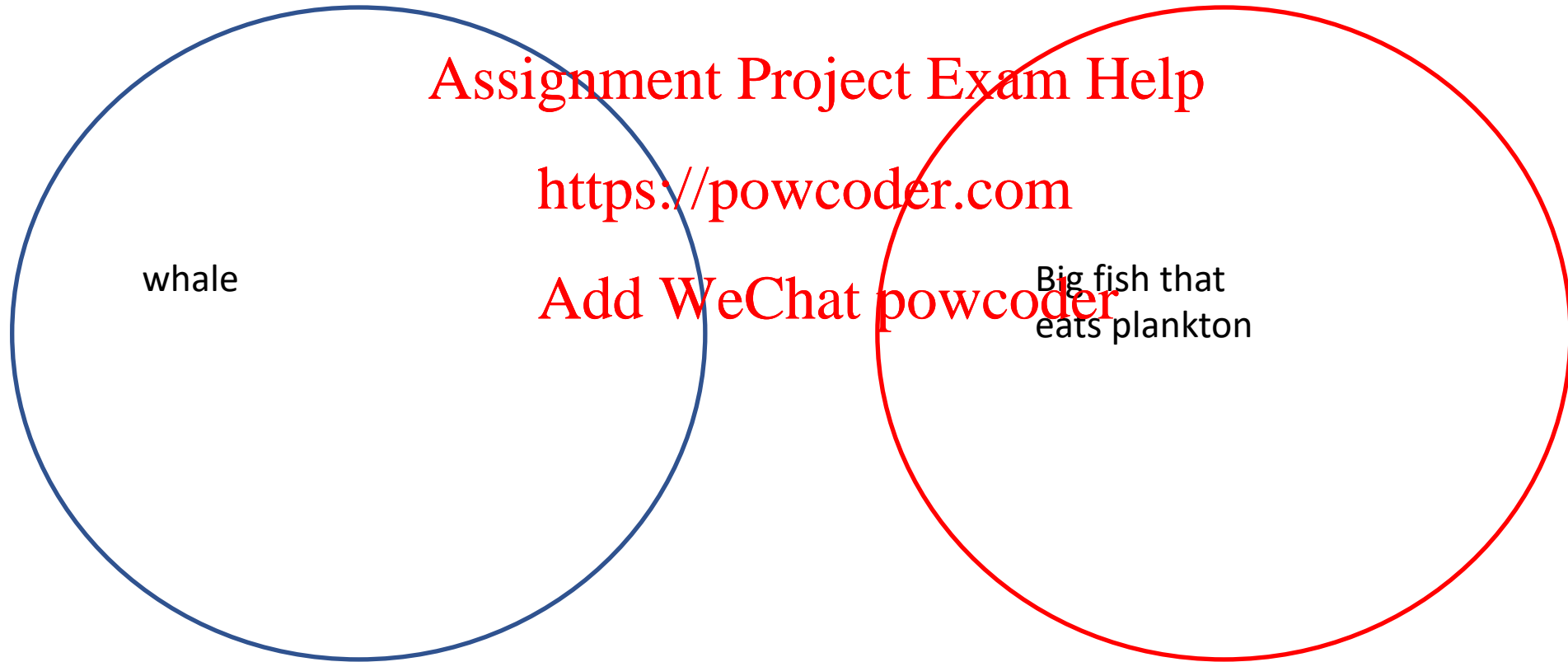
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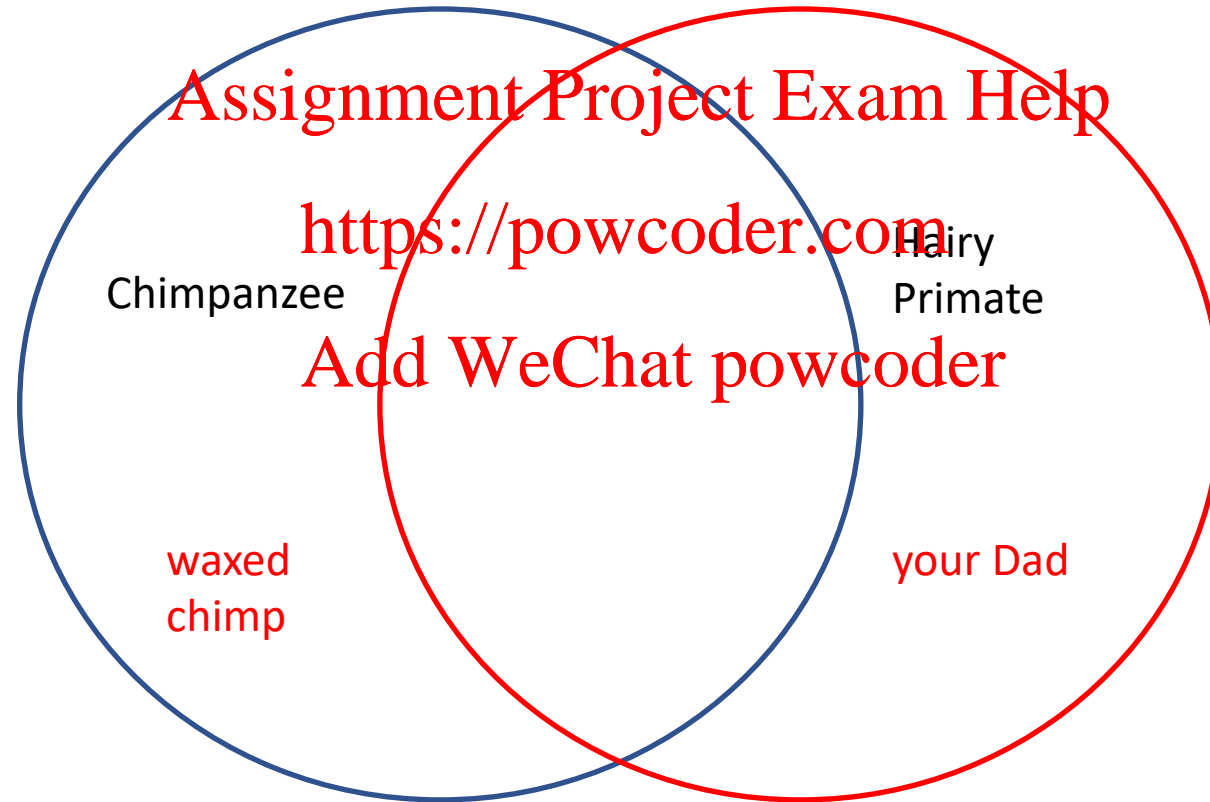
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Whale = big fish that eats plankton

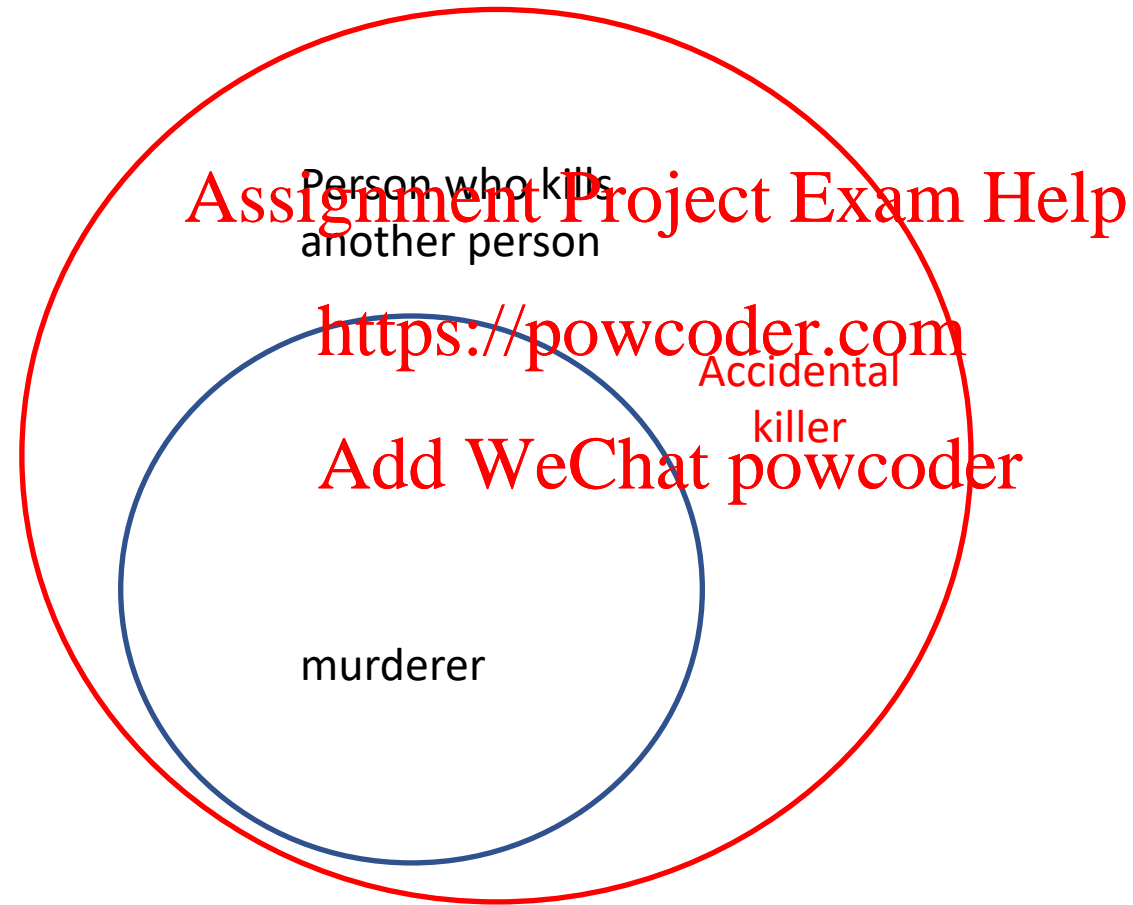


# Chimpanzee = hairy primate





# Murderer = a person who kills another person



# Conceptions and Ambiguity

- Some words are ambiguous. E.g.
- hand, bank, sound

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e.g. What does “stable” mean in biology when we say that an ecosystem is stable?

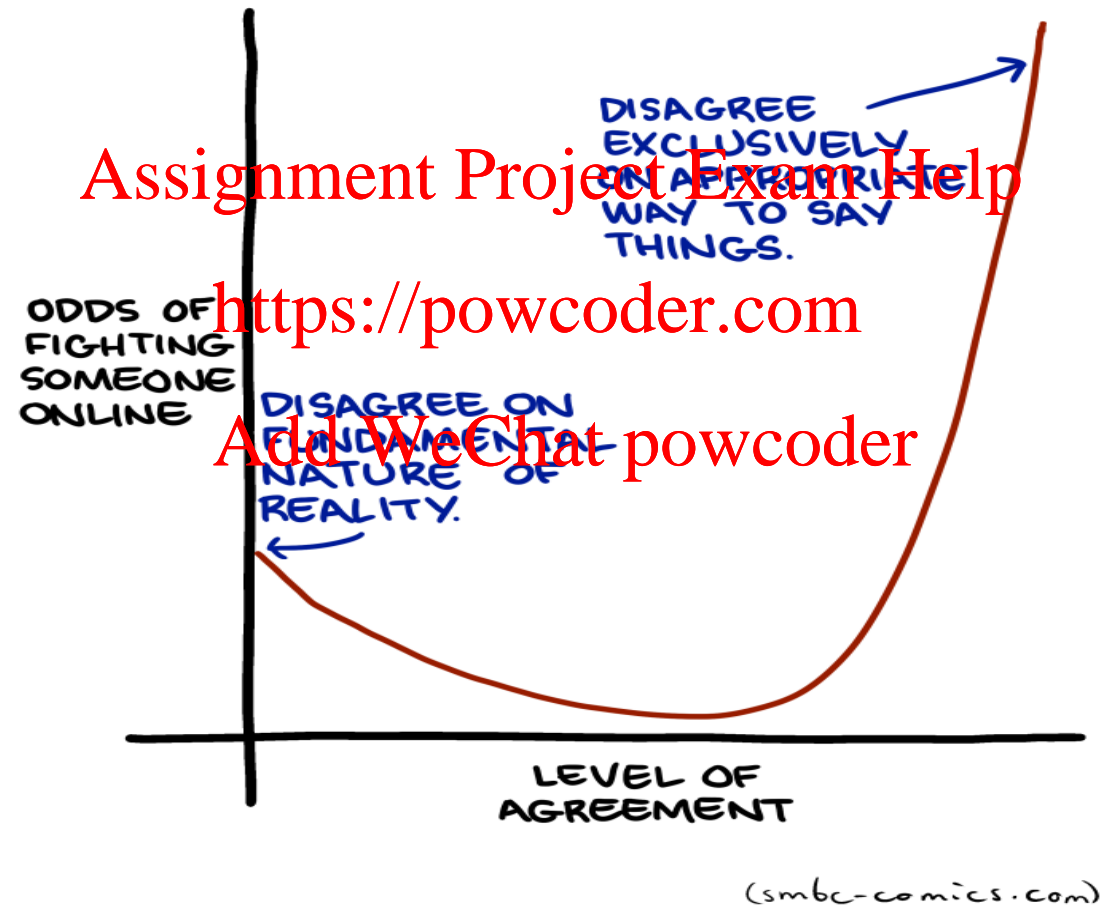
- Stable = hard to perturb from natural cycle
- Stable = will return to natural cycle if perturbed
- Stable = will return quickly to natural cycle if perturbed

- Key = object designed to be inserted into a lock in order to open or close the lock
- What about the key of E minor?

# What kind of Disagreement?

- Some disagreements are merely disagreements over meaning.
- E.g. Is Dave a bachelor? Yes. No!
- (Suppose we agree Dave was married but is now divorced and not married, but disagree over whether this qualifies him a bachelor.)
- Other disagreements are disagreements over the non-linguistic facts.
- (Suppose we disagree over whether it was Dave who married Angela or Trev who married Angela.)
- We need to be able to distinguish these two types of disagreement.

# Why it is useful to know the difference



# Examples

- Dave: What you see on Big Brother is not real.
- Trev: Yes it is. Everything that they show on screen really happens. None of it is faked.
- Dave: Of course it is faked. As soon as someone points a camera in your face, what happens is fake.
- Scientist: Darwinism is the theory that gives the correct explanation for the existence of the various species of plant and animal.
- Creationist: The scientist and I agree that Darwinism is a theory, and so is Creationism. In this respect are equal, so no one can claim to know that either is true. The choice between them is a matter of faith.

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# Examples

- Trev: Homosexuality is unnatural, so it is wrong.
- Dave: Homosexuality is natural. It occurs in many non-human species, and some people have a genetic predisposition to it. Since it is natural, homosexuality is not morally wrong.

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- Natural?
- Organic?

# Alice and Humpty Dumpty



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Two people often  
use the very same  
word to mean  
different things.

Can you decide what  
a word will mean?

Can you give a word  
a particular  
meaning?

# Lewis Carroll: Alice and Humpty Dumpty

"... there are three hundred and sixty-four days when you might get un-birthday presents -"

"Certainly," said Alice.

"And only one for birthday presents, you know. There's glory for you!"

"I don't know what you mean by 'glory,'" Alice said.

Humpty Dumpty smiled contemptuously. "Of course you don't - till I tell you. I meant 'there's a nice knock down argument for you!'"

"But 'glory' doesn't mean 'a nice knock-down argument,'" Alice objected.

"When I use a word," Humpty Dumpty said in a rather scornful tone, "it means just what I choose it to mean - neither more nor less."

"The question is," said Alice, "whether you *can* make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master - that's all."

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# Technical Meanings

- You share 50% of your genes with your sister.
- You share 98% of your genes with a chimpanzee.
- Therefore you are much more closely related to a chimpanzee than to your sister.
- In some cases the vagueness of the common meaning of a term is not a problem, but sometimes we have reason to demand clarity and specificity in the meanings of certain terms.
- e.g. In **technical contexts**, where we are building complicated machines.
- In **legal contexts**, when we have to apply a law and citizens have to know exactly what is legal and what is illegal.
- In **philosophical contexts** when we are considering subtle variations between theories.

# Stipulative Definition

- A **stipulative definition** is not intended to match exactly the everyday meaning of the word or the broader technical meaning of a word. Rather it lets a speaker fix the meaning of the word within a specific, limited domain.
- The contrast to a stipulative definition is a definition that is supposed to identify the common meaning of the word.
- e.g. A law might include a stipulative definition: "Asylum seeker" means a person who is not an Australian citizen who comes to Australia with or without having followed the required immigration procedures and who seeks permanent residency in Australia on the grounds of her or his likely persecution in the nation of which he or she is a citizen.
- NB A definition can be both descriptive and stipulative, as is the one above.

# Abuse of Stipulative Definition

- By "child abuser" I mean anyone who causes a child to suffer unnecessary physical or emotional pain. Trev smacked his daughter when she would not put the lollies back on the supermarket shelf, hence causing her unnecessary physical pain. Thus, Trev is a child abuser and should be kept away from his daughter.
- One way to guard against wayward stipulative definitions is to test the definition against the common views about the extension of the term, i.e. common views about the range of things to which the term applies.

# Examples

- "Solid" means "contains no empty space". Scientists have discovered that atoms consist of mostly empty space (between the nucleus and the orbiting electrons). Since everything is made up of atoms, it turns out that tables, chairs and even bank vaults are not solid.
- But what about this?: "Wizard" means a man who has magical powers and can cast spells. Since no one has magical powers, there are no wizards.
- Al Qaeda is supposed to be an a terrorist organisation that carries out terrorist attacks on a range of targets in different areas of the world. But really the people who commit these attacks do not meet with each other, and do not follow the commands of a single leader. Therefore, Al Quaeda does not exist.

# Definitions and Natural Kinds

- What does the term "whale" mean? People used to define species and genera according to the manifest characteristics of the creatures, and thus used to think that all very big marine creatures with tails were whales. If we allow their usage to determine what the term means, then we might define "whale" as "very big marine creature with a tail", and think that the extension of "whale" includes whale sharks and other big fish.
- But biologists discovered that there is a natural kind of whales (big marine mammals with a certain line of descent), and that not all of the things that had been called whales fitted into this category.
- Did the meaning of "whale" change with this discovery? Or were people back then misusing the term "whale"? i.e. Were they mistaken about which things were actually whales?