PART ONE

BECOMING A CAREFUL THINKER

CRITICAL REASONING

> SUPERSTITION SETS THE WHOLE WORLD IN FLAMES; PHILOSOPHY QUENCHES THEM.
> (VOLTAIRE)

WHAT DO YOU GET WHEN YOU CROSS A DECEPTICON WITH A NAÏVE BYSTANDER?

A mess, that's what.

Most likely, the innocent bystander will quickly fall prey to the overwhelming manipulations of the former. Autobots to the rescue?

We live in a world of manipulation, filled with trickery, deception, error, and confusion. And unless we arm ourselves against those things that would lead us by the nose, we'll wind up letting the world think for us. But how can we tell the difference between fear-mongering and legitimate worries, between the rumor mills and true concerns, between salesman pitches and documented evidence? Between Decepticons and the rest?

We can't—if we don't take the time to develop a skill set called *critical reasoning*. But *critical* doesn't mean cynical or negative. To be a critical reasoner is to be a thinker who carefully analyzes and evaluates claims that present themselves. The word *critical* has the same root as the word *criterion*—the Greek word *krites*, which means 'judge.' To be a critical thinker is to be one who passes judgment, who evaluates, who weighs evidence before concluding anything. A critical thinker slows things down and seeks the truth of the matter; she doesn't take everything at face value, because she knows that much of the world is masked by ignorance or misinformation.

Fortunately for us, we don't have to learn how to think carefully on our own. There's a *lot* of very useful stuff out there, and the following chapters of this book carefully lead you through the process of learning and beginning to master this liberating skill set. Why 'liberating'? Because if you take the time to gain these skills, you will become one who thinks for herself. You'll become one who makes his own judgments. You'll be able to maneuver the maze of manipulation without yourself falling into misinformation.

One final thought before we dive in: this is hard stuff. It's hard because it's a whole new way of thinking. Sure, you've been using your mind your whole life—but probably not this way. This book will work like a gym training for the mind. It's a workout. And you'll ache sometimes. Like an athlete feels the burn when he trains rigorously in order to strengthen new muscle groups, you'll feel the pain of newly formed mental muscles. You will probably get a headache now and again. Don't quit. This is normal, even healthy. It shows that you're working out. On the other hand, you'll probably find that parts of this book are much more intuitive. There'll be chapters that challenge the heck out of you, but there'll also be chapters that you find almost effortless, since they align with your natural way of thinking. Don't give up. And if you're studying this text with others—use each other. Where some find difficulty, others will find familiarity. We're all in this together, so let's work together to escape the cave of ignorance into the liberation of clear thinking.

MAD MIND SKILLZ

How to Do That Critical Reasoning Thing

So here's a number of skills a *good* critical thinker will have. Honestly assess yourself. How well can you do each of these? Have you even thought about how important they are? How well do you

- determine whether information or data is or is not relevant or important?
- distinguish between rational and emotional claims?
- understand how claims, beliefs, and arguments can be shaped or compromised?
- recognize and avoid logical errors?
- identify and use the best available evidence for an argument or counterargument?
- clearly and cohesively organize and articulate an argument?
- avoid overstating conclusions either by exaggeration, heightened rhetoric, or inferring more than the evidence in the premises allows?
- separate fact from opinion?
- hear what is actually said and implied as opposed to reading into what is said content that isn't logically relevant?
- recognize and separate contradictory, inadequate, or ambiguous information?
- omit unhelpful and unnecessary elements in an argument?
- connect separate data into a coherent set of evidence?
- recognize when an evidence set is inadequate or incomplete and be able to search out and use additional relevant evidence to strengthen an argument?
- recognize when a problem has no clear answer?
- acknowledge human fallibility in yourself and others?
- recognize and acknowledge the strength and persuasiveness of another's argument if it is a good argument, even if you dislike the conclusion?

These are the characteristics of one who has developed solid critical thinking skills. These are the traits of one who has *worked on it*—because critical thinking isn't a thing that magically happens, any more than mastery of the piano or half-court 3-point shots come magically. These are things that come with practice.

CRITICAL THINKING

'Critical thinking' is perhaps one of the most under-defined, overused, vague terms you've yet run across. I bet when you signed up for this course, it wasn't the same sort of clear-cut thought process you had as when you signed up for a math or history or composition course. *Critical Reasoning* doesn't send off clear images like *Intercultural Crisis Management* or *Principles of Animation* or *Organic Chemistry*.

But critical thinking is the *core* of organized, clear, and careful reasoning. Critical thinking involves *thinking about thinking*; that is, critiquing our thought processes and mindsets: judging beliefs, conclusions, inferences—and the actions we take because of them—according to the criteria of good sense and logic.

We live in a world of mental manipulation. Politicians, advertisers, and many other groups try to shape our thinking to meet their agendas. We believe what people say, often without bothering to consider what ulterior motive or belief set they may have that drives their words. Sometimes people are just wrong, and if we don't consider that, we might embrace something they say and act on bad information.

CHAPTER TWO

DEFINING TERMS

THE CONTENT AND PURPOSE OF CHAPTER TWO

Understanding the Importance of Good Definitions

There are a number of ways that we use the term 'definition.' And there are a number of ways we respond when somebody asks us for a definition. But what counts as a useful definition when we're trying to get as clear as we can about the meaning of a certain term, phrase, or concept? In order for us to all be on the same page for this discussion, it's important that we first refer to Plato's dialogue, *The Euthyphro*. Thus, we're going to delve into some pretty serious philosophy for a bit before we return to the issue at hand: the question of what constitutes a good definition in this concept.

> SHE ASKED ME HOW I SLEPT. KNOWING SHE MEANT QUALITY OF SLEEP, I SAID I SLEPT NAKED. IT'S TRUE. ASK ANY OF THE JOGGERS WHO SAW ME SLEEPWALKING.
>
> (JAROD KINTZ)

FOUNDATIONS

The key concepts in this unit are all related to our linguistic and mental "default settings." We'll first look at language itself (since it's what we use to make claims) and how we can avoid ambiguity, which hinders our path to understanding. Then (in the next chapter) we'll look at (some of) our cognitive biases that can also hinder our journey. So the main principles you'll learn in this chapter are these:

- Before we can discuss the pros or cons of a concept, argument, or theory, we must first agree upon a careful definition that supplies the necessary and sufficient conditions of the concept, or of the key concepts essential to the argument or theory.
- If a definition begins with the supposal that one already understands the concept being defined in some way, then this definition is inadequate as a useful conceptual analysis, thus as a starting point in doing philosophy.
- Because we seek to avoid all ambiguity, we must always put definitions and arguments into a standardized format, to ensure clarity and consistency.
- Definitions in philosophy are very exact. We must remember to use our terms, once defined, with precision, referencing only those things that meet the criteria set in our accepted (analytic) definition.

READING QUESTIONS

As you study this chapter, keep these questions in mind for critical thinking and analysis.

- What does Socrates ask from Euthyphro, and why is he unsatisfied with Euthyphro's initial answer? What does Euthyphro miss?
- There are two steps in doing philosophy. If you find yourself leaping into debating with Socrates before you're totally clear on his terms, how can you discipline yourself to think more carefully, making sure you are clear on the precise meaning of each term, making sure you are strictly following the Rules of Discourse?
- Write a careful summary of the discussion in the Euthyphro, making sure to avoid the pitfalls of too many details or getting caught up in side issues that might be important to us nowadays but are ultimately irrelevant to the philosophical question(s) being considered in the dialogue.
- What are the pitfalls of each kind of definition? That is, what does each kind of definition assume you already know?
- A conceptual analysis (also called an analytic definition) requires both a necessary and a sufficient condition. What kind of error does one make if one leaves out the necessary condition? What kind if one leaves out the sufficient condition? Which error does Euthyphro make?

continued…

- Drawing conclusions from ambiguous language always results in bad reasoning.

You will become increasingly comfortable with these key concepts:

The Principle of Non-Contradiction (PNC): It is a logical law that for any claim p, it is false that both p and not-p.

PNC: ~(p&~p)

The Law of Excluded Middle (LEM): It is a logical law that for claim p, either p is true or p is not true.

LEM: p V ~p

Bivalence: Every claim or theory has exactly one truth value, either true or false. (That is, both PNC and LEM apply.)

Leibniz's Law (LL): It is a logical law that for anything x, anything y, and any property P, if x is identical with y, then x and y will both have P.

LL: (x = y) → (Px & Py)

We will in this chapter have our first discussion of the related but distinct terms ***necessary*** and ***sufficient***: for something x to be sufficient for something else y, x must guarantee by its very presence that y. Recall further that for y to be necessary for x, then it is impossible for x to be present without y.

*X is **necessary** for y iff y cannot possibly be (exist, obtain) without x.*

*X is **sufficient** for y iff x guarantees the presence (existence, obtaining) of y.*

It follows that if x is both necessary and sufficient for y, then every time you have y, you must have x, and every time you don't have y you cannot have x: they are a packaged set—you get both or you get nothing. We use the notation ***iff*** (pronounced "if and only if") to indicate that something is *both* necessary and sufficient for something else. And this is precisely the content of analytic definitions.

TASKS & CRITICAL QUESTIONS (CQs)

This chapter contains *seven* tasks and *one* critical question.

READING QUESTIONS,

continued.

- Explain each of the different kinds of definitions. Where is each one most useful? What is each one's limitation? Why do you suppose we prefer the analytic definition when doing philosophy?
- What is the difference between vagueness and ambiguity? Give examples of each.
- What is the difference between an ambiguous statement and an ambiguity fallacy?
- What is the paradox of conceptual analysis, why does it matter, and how is the paradox resolved?
- What do all fallacies have in common? What are the two most general kinds of fallacies, and what distinguishes them from each other?
- A subcategory of informal fallacies is the ambiguity fallacy. How do these work? What do they all do to wreck arguments?
- What are the different kinds of ambiguity, and which fallacies depend on which kind of ambiguity?
- Briefly explain each of the following fallacies: equivocation, amphiboly, category mistake, accent, composition, and division. Can you find examples of each?
- Start a fallacy collection! Open a document and copy/paste or briefly describe the fallacy as you encounter it. If you don't know the name of the fallacy you encounter, but you feel there's something wonky in the argument (it breaks a rule of discourse), mark it for labelling later on in the course.

ACTIVE READING AND THE RULES OF DISCOURSE

When reading a philosophical text (or any academic text), slow down. **Read actively.** Have a pen or pencil handy, and jot down questions and notes in the columns of the reading as you go along (otherwise, that one perfect thought you had will be lost forever). Stop to look up words, or mark the ones you will look up later. If you really don't understand something, try to paraphrase it in your own words in the column. This forces you to slow down and digest things you might brush past if trying to read like it were the internet. Don't read like you're reading your favorite magazine or novel. Slow down and make sure you *really understand* what you're reading, and if you don't understand, *take notes* about what you don't understand, to see if the author explains it later, or to ask your instructor in class discussion.

There's *no shame in not magically understanding something totally new to you*. Everyone in your class is in the same boat as you (even those who won't admit it to themselves). You won't look dumb if you ask questions. In fact, you'll look pretty smart to your instructor, who is just dying to talk about this stuff with you, but is waiting for your questions.

ACTIVE READING, *continued.*

This pen-in-hand method is called *active reading*. It's not like reading *Hunger Games* or your favorite blogs. You have to chew slowly, think clearly, and try to understand things that are sometimes technical, sometimes unclear. This isn't reading for fun, but reading to learn. And learning takes time.

That means you need to **dedicate a solid block of time**. And by 'dedicate,' I mean *focused attention*. If you're like me, you read best to music. But is it background or are you singing along? You cannot multitask when doing philosophy (or studying anything), if you want to learn.*

I can guarantee you that you will only get out of the text what you put in: if you're distracted by TV or Facebook or rowdy friends or endless texts, you will *not* get the reading. Silence your phone. Turn off the TV. Leave Facebook. And focus. You will reap *huge* rewards if you challenge yourself to dig in with *all* your attention.

* A 2009 Stanford study demonstrated that multitasking severely reduced cognitive control and memory retention. Cf. http://news.stanford.edu/news/2009/august24/multitask-research-study-082409.html. This study was reinforced in 2012 by an Ohio State University study, which showed that although we might feel better when multitasking, we still lose cognitive ability and our performance suffers. Cf. http://researchnews.osu.edu/archive/multitask.htm. Finally, in 2013 another Stanford study showed that not only does multitasking reduce productivity and cognitive function, it actually winds up wasting time rather than saving it—multitaskers are less able to filter out irrelevancies or remove distractions. Cf. http://www.npr.org/2013/05/10/182861382/the-myth-of-multitasking.

READING THE *EUTHYPHRO*

Philosophical texts cover a very wide area.

The following dialogue deals with issues in meaning, social structure, family hierarchy, politics, religion, and the metaphysics of morality. All of these issues are important. But following Rule One of our Rules of Discourse, I ask you to focus on only one issue at this time.

Your instructor may wish to have you read it with more breadth, but always remember to look at every issue individually, and to treat them one at a time. Before you can do that, you need to understand what words mean. And that's the one issue I want you to focus on at this time.

Socrates asks Euthyphro to define a term here. What is he asking for? How does Euthyphro respond? Look at the discussion in the light of these questions: "What do their terms mean?" "What makes for a good definition?" and "Why is it important to define terms clearly before we can jump into philosophical analysis?"

You'll know when Socrates is satisfied with Euthyphro's definition when he begins to explore the consequences of the concept. When the discussion moves from "what is piety?" to "which comes first?", you've found that sweet spot where philosophy moves from step one (defining terms) to step two.

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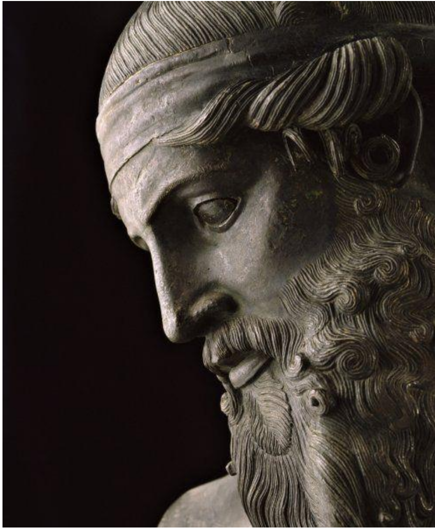

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THE EUTHYPHRO

*Plato (2a-16b)**

Euthyphro. Why have you left the Lyceum, Socrates? and what are you doing in the Porch of the King Archon? Surely you cannot be concerned in a suit before the King, like myself?

Socrates. Not in a suit, Euthyphro; impeachment is the word which the Athenians use.

Euthyphro. What! I suppose that someone has been prosecuting you, for I cannot believe that you are the prosecutor of another. 2b

Socrates. Certainly not.

Euthyphro. Then someone else has been prosecuting you?

Socrates. Yes.

Euthyphro. And who is he?

Socrates. A young man who is little known, Euthyphro; and I hardly know him: his name is Meletus, and he is of the deme of Pitthis. Perhaps you may remember his appearance; he has a beak, and long straight hair, and a beard which is ill grown. 2c

Euthyphro. No, I do not remember him, Socrates. But what is the charge which he brings against you?

Socrates. What is the charge? Well, a very serious charge, which shows a good deal of character in the young man, and for which he is certainly not to be despised. He says he knows how the youth are corrupted and who are their corruptors. I fancy that he must be a wise man, and seeing that I am the reverse of a wise man, he has found me out, and is going to accuse me of corrupting his young friends. And of this our mother the state is to be the judge. Of all our political men he is the only one who seems to me to begin in the right way, with the cultivation of virtue in youth; like a good husbandman, he makes the young shoots his first care, and clears away us who are the destroyers of them. This is only the first step; he will afterwards attend to the elder branches; and if he goes on as he has begun, he will be a very great public benefactor. 3a

Euthyphro. I hope that he may; but I rather fear, Socrates, that the opposite will turn out to be the truth. My opinion is that in attacking you he is simply aiming a blow at the foundation of the state. But in what way does he say that you corrupt the young?

* The Platonic texts were collected into a tome edited by Henri Estienne ("Stephanus" in Latin) in 1578. To ensure consistency in citation, it is tradition to cite the Stephanus numbers (often found in the columns of current translations), much like people cite *suras* or *verses* in religious texts, which were not original to the texts, but added later by preservationists.

This particular translation of Plato's *Euthyphro* is in the public domain. It is by Benjamin Jowett and available at www.gutenberg.org.

3b **Socrates**. He brings a wonderful accusation against me, which at first hearing excites surprise: he says that I am a poet or maker of gods, and that I invent new gods and deny the existence of old ones; this is the ground of his indictment.

Euthyphro. I understand, Socrates; he means to attack you about the familiar sign which occasionally, as you say, comes to you. He thinks that you are a neologian, and he is going to have you up before the court for this. He knows that such a charge is readily received by the world, as I myself know too well; for when I speak in the assembly about divine 3c things, and foretell the future to them, they laugh at me and think me a madman. Yet every word that I say is true. But they are jealous of us all; and we must be brave and go at them.

Socrates. Their laughter, friend Euthyphro, is not a matter of much consequence. For a man may be thought wise; but the Athenians, I suspect, do not much trouble themselves about him until he begins to impart his 3d wisdom to others, and then for some reason or other, perhaps, as you say, from jealousy, they are angry.

Euthyphro. I am never likely to try their temper in this way.

Socrates. I dare say not, for you are reserved in your behaviour, and seldom impart your wisdom. But I have a benevolent habit of pouring out myself to everybody, and would even pay for a listener, and I am afraid that the Athenians may think me too talkative. Now if, as I was saying, they would only laugh at me, as you say that they laugh at you, the time might pass gaily enough in the court; but perhaps they may be in earnest, and then what the end will be you soothsayers only can predict.

3e **Euthyphro**. I dare say that the affair will end in nothing, Socrates, and that you will win your cause; and I think that I shall win my own.

Socrates. And what is your suit, Euthyphro? are you the pursuer or the defendant?

Euthyphro. I am the pursuer.

4a **Socrates**. Of whom?

Euthyphro. You will think me mad when I tell you.

Socrates. Why, has the fugitive wings?

Euthyphro. Nay, he is not very volatile at his time of life.

Socrates. Who is he?

Euthyphro. My father.

Socrates. Your father! my good man?

Euthyphro. Yes.

Socrates. And of what is he accused?

Euthyphro. Of murder, Socrates.

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Socrates. Heracles! How little does the common herd know of the nature of right and truth, Euthyphro! A man must be an extraordinary man, and have made great strides in wisdom, before he could have seen his way to bring such an action. 4b

Euthyphro. Indeed, Socrates, he must.

Socrates. I suppose that the man whom your father murdered was one of your relatives—clearly he was; for if he had been a stranger you would never have thought of prosecuting him.

Euthyphro. I am amused, Socrates, at your making a distinction between one who is a relation and one who is not a relation; for surely the pollution is the same in either case, if you knowingly associate with the murderer when you ought to clear yourself and him by proceeding against him. The real question is whether the murdered man has been justly slain. If justly, then your duty is to let the matter alone; but if unjustly, then even if the murderer lives under the same roof with you and eats at the same table, proceed against him. Now the man who is dead was a poor dependent of mine who worked for us as a field labourer on our farm in Naxos, and one day in a fit of drunken passion he got into a quarrel with one of our domestic servants and slew him. My father bound him hand and foot and threw him into a ditch, and then sent to Athens to ask of a diviner what he should do with him. Meanwhile he never attended to him and took no care about him, for he regarded him as a murderer; and thought that no great harm would be done even if he did die. Now this was just what happened. For such was the effect of cold and hunger and chains upon him, that before the messenger returned from the diviner, he was dead. And my father and family are angry with me for taking the part of the murderer and prosecuting my father. They say that he did not kill him, and that if he did, dead man was but a murderer, and I ought not to take any notice, for that a son is impious who prosecutes a father. Which shows, Socrates, how little they know what the gods think about piety and impiety. 4c 4d 4e

Socrates. Good heavens, Euthyphro! and is your knowledge of religion and of things pious and impious so very exact, that, supposing the circumstances to be as you state them, you are not afraid lest you too may be doing an impious thing in bringing an action against your father?

Euthyphro. The best of Euthyphro, and that which distinguishes him, Socrates, from other men, is his exact knowledge of all such matters. What should I be good for without it? 5a

Socrates. Rare friend! I think that I cannot do better than be your disciple. Then before the trial with Meletus comes on I shall challenge him, and say that I have always had a great interest in religious questions, and now, as he charges me with rash imaginations and innovations in religion, I have become your disciple. You, Meletus, as I 5b

shall say to him, acknowledge Euthyphro to be a great theologian, and sound in his opinions; and if you approve of him you ought to approve of me, and not have me into court; but if you disapprove, you should begin by indicting him who is my teacher, and who will be the ruin, not of the young, but of the old; that is to say, of myself whom he instructs, and of his old father whom he admonishes and chastises. And if Meletus refuses to listen to me, but will go on, and will not shift the indictment from me to 5c you, I cannot do better than repeat this challenge in the court.

Euthyphro. Yes, indeed, Socrates; and if he attempts to indict me I am mistaken if I do not find a flaw in him; the court shall have a great deal more to say to him than to me.

Socrates. And I, my dear friend, knowing this, am desirous of becoming your disciple. For I observe that no one appears to notice you—not even this Meletus; but his sharp eyes have found me out at once, and he has indicted me for impiety. And therefore, I adjure you to tell me the nature of piety and impiety, which you said that you knew so well, and of murder, and of other offences against the gods. What are they? Is not piety in every 5d action always the same? and impiety, again- is it not always the opposite of piety, and also the same with itself, having, as impiety, one notion which includes whatever is impious?

Euthyphro. To be sure, Socrates.

Socrates. And what is piety, and what is impiety?

Euthyphro. Piety is doing as I am doing; that is to say, prosecuting anyone who is guilty of murder, sacrilege, or of any similar crime—whether he be 5e your father or mother, or whoever he may be—that makes no difference; and not to prosecute them is impiety. And please to consider, Socrates, what a notable proof I will give you of the truth of my words, a proof which I have already given to others: —of the principle, I mean, that the impious, whoever he may be, ought not to go unpunished. For do not men regard 6a Zeus as the best and most righteous of the gods?-and yet they admit that he bound his father (Kronos) because he wickedly devoured his sons, and that he too had punished his own father (Uranus) for a similar reason, in a nameless manner. And yet when I proceed against my father, they are angry with me. So inconsistent are they in their way of talking when the gods are concerned, and when I am concerned.

Socrates. May not this be the reason, Euthyphro, why I am charged with impiety—that I cannot away with these stories about the gods? and therefore I suppose that people think me wrong. But, as you who are well 6b informed about them approve of them, I cannot do better than assent to your superior wisdom. What else can I say, confessing as I do, that I know nothing about them? Tell me, for the love of Zeus, whether you really believe that they are true.

Euthyphro. Yes, Socrates; and things more wonderful still, of which the world is in ignorance.

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Socrates. And do you really believe that the gods, fought with one another, and had dire quarrels, battles, and the like, as the poets say, and as you may see represented in the works of great artists? The temples are full of them; and notably the robe of Athena, which is carried up to the Acropolis at the great Panathenaea, is embroidered with them. Are all these tales of the gods true, Euthyphro? 6c

Euthyphro. Yes, Socrates; and, as I was saying, I can tell you, if you would like to hear them, many other things about the gods which would quite amaze you.

Socrates. I dare say; and you shall tell me them at some other time when I have leisure. But just at present I would rather hear from you a more precise answer, which you have not as yet given, my friend, to the question, What is "piety"? When asked, you only replied, Doing as you do, charging your father with murder. 6d

Euthyphro. And what I said was true, Socrates.

Socrates. No doubt, Euthyphro; but you would admit that there are many other pious acts?

Euthyphro. There are.

Socrates. Remember that I did not ask you to give me two or three examples of piety, but to explain the general idea which makes all pious things to be pious. Do you not recollect that there was one idea which made the impious *impious*, and the pious *pious*? 6e

Euthyphro. I remember.

Socrates. Tell me what is the nature of this idea, and then I shall have a standard to which I may look, and by which I may measure actions, whether yours or those of anyone else, and then I shall be able to say that such and such an action is pious, such another impious.

Euthyphro. I will tell you, if you like.

Socrates. I should very much like.

Euthyphro. Piety, then, is that which is precious to the gods, and impiety is that which is not precious to them. 7a

Socrates. Very good, Euthyphro; you have now given me the sort of answer which I wanted. But whether what you say is true or not I cannot as yet tell, although I make no doubt that you will prove the truth of your words.

Euthyphro. Of course.

Socrates. Come, then, and let us examine what we are saying. That thing or person which is precious to the gods is pious, and that thing or person which is hateful to the gods is impious, these two being the extreme opposites of one another. Was not that said?

Euthyphro. It was.

7b **Socrates**. And well said?

Euthyphro. Yes, Socrates, I thought so; it was certainly said.

Socrates. And further, Euthyphro, the gods were admitted to have enmities and hatreds and differences?

Euthyphro. Yes, that was also said.

Socrates. And what sort of difference creates enmity and anger? Suppose for example that you and I, my good friend, differ about a number; do differences of this sort make us enemies and set us at variance with one 7c another? Do we not go at once to arithmetic, and put an end to them by a sum?

Euthyphro. True.

Socrates. Or suppose that we differ about magnitudes, do we not quickly end the differences by measuring?

Euthyphro. Very true.

Socrates. And we end a controversy about heavy and light by resorting to a weighing machine?

Euthyphro. To be sure.

Socrates. But what differences are there which cannot be thus decided, and which therefore make us angry and set us at enmity with one another? I dare say the answer does not occur to you at the moment, and therefore 7d I will suggest that these enmities arise when the matters of difference are the just and unjust, good and evil, honourable and dishonourable. Is it not about right and wrong, and noble and disgraceful, and good and bad? Are not these the questions about which you and I and other people become enemies, when we do become enemies, because we differ about them and cannot reach any satisfactory agreement?

Euthyphro. Yes, Socrates, these are the questions about which we should become enemies.

Socrates. And how about the gods, noble Euthyphro, if they disagree, would they not disagree about these questions?

Euthyphro. Certainly.

7e **Socrates**. Then, according to what you say, some of the gods too think some things are right or wrong and noble or disgraceful, and good or bad, and others disagree; for they would not quarrel with each other if they did not disagree about these matters. Is that the case?

Euthyphro. You are quite right.

Socrates. Then the gods in each group love the things which they consider good and right and hate the opposites of these things?

Euthyphro. Right.

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Socrates. But you say that the same things are considered right by some of them and wrong by others; and it is because they disagree about these things that they quarrel and wage war with each other. Is not this what you said? 8a

Euthyphro. Yes, it is.

Socrates. Then the same things are hated by the gods and loved by the gods, and are both hateful and precious to them?

Euthyphro. So it seems.

Socrates. And upon this view the same things, Euthyphro, will be pious and also impious?

Euthyphro. I suppose.

Socrates. Then, my friend, I remark with surprise that you have not answered the question which I asked. For I certainly did not ask you to tell me what action is both pious and impious: but now it would seem that what is loved by the gods is also hated by them. And therefore, Euthyphro, in thus chastising your father you may very likely be doing what is agreeable to Zeus but disagreeable to Kronos or Uranus, and what is acceptable to Hephaestus but unacceptable to Hera, and there may be other gods who have similar differences of opinion. 8b

Euthyphro. But I believe, Socrates, that all the gods would be agreed as to the propriety of punishing a murderer: there would be no difference of opinion about that.

Socrates. Well, but speaking of men, Euthyphro, did you ever hear any one arguing that a murderer or any sort of evil-doer ought to be let off? 8c

Euthyphro. I should rather say that these are the questions which they are always arguing, especially in courts of law: they commit all sorts of crimes, and there is nothing which they will not do or say to avoid the penalty.

Socrates. But do they admit their guilt, Euthyphro, and yet say that they ought not to be punished?

Euthyphro. Oh no; they don't do that.

Socrates. Then there are some things which they do not say and do: for they do not, I bet, venture to argue that the guilty are to be unpunished, but they deny they are the guilty, do they not? 8d

Euthyphro. That's right.

Socrates. Then they do not argue that the evil-doer should not be punished, but they argue about the fact of who the evil-doer is, and what he did and when?

Euthyphro. Exactly.

Socrates. And the gods are in the same case, if as you assert they quarrel about just and unjust, and some of them say while others deny 8e

that injustice is done among them. For surely neither gods nor man will ever venture to say that the doer of injustice is not to be punished?

Euthyphro. You are right about this, Socrates, in the main.

Socrates. But they join issue about the particulars—gods and men alike; and, if they dispute at all, they dispute about some act which is called in question, and which by some is affirmed to be just, by others to be unjust. Is not that true?

Euthyphro. Quite true.

9a **Socrates**. Well then, my dear friend Euthyphro, do tell me, for my better instruction and information, what proof you have that all the gods think that the man lost his life wrongfully, who, when he was a servant, committed murder, was bound by the master of the man he killed, and died as a result of his bonds before the master who had bound him found out from the advisers what he ought to do with him, and that it is right on account of such a man for a son to proceed against his father and accuse him of murder. How would you show that all the gods absolutely agree on 9b the rightness of this conduct? Prove to me that they do, and I will applaud your wisdom as long as I live.

Euthyphro. It will be a difficult task; but I can show you very clearly.

Socrates. I understand; you mean to say that I am not so quick of apprehension as the judges: for to them you will be sure to prove that the act is unjust, and hateful to the gods.

Euthyphro. Yes indeed, Socrates; at least if they will listen to me.

Socrates. But they will be sure to listen if they find that you are a good 9c speaker. There was a notion that came into my mind while you were speaking; I said to myself: "Well, and what if Euthyphro does prove to me that all the gods regarded the death of the serf as unjust, how do I know anything more of the nature of piety and impiety? for granting that this action may be hateful to the gods, still piety and impiety are not adequately defined by these distinctions, for that which is hateful to the gods has been shown to be also pleasing and precious to them." And therefore, Euthyphro, I do not ask you to prove this; I will suppose, if you like, that all the gods condemn and abominate such an action. But I will amend the 9d definition so far as to say that what all the gods hate is impious, and what they love pious or holy; and what some of them love and others hate is both or neither. Shall this be our definition of piety and impiety?

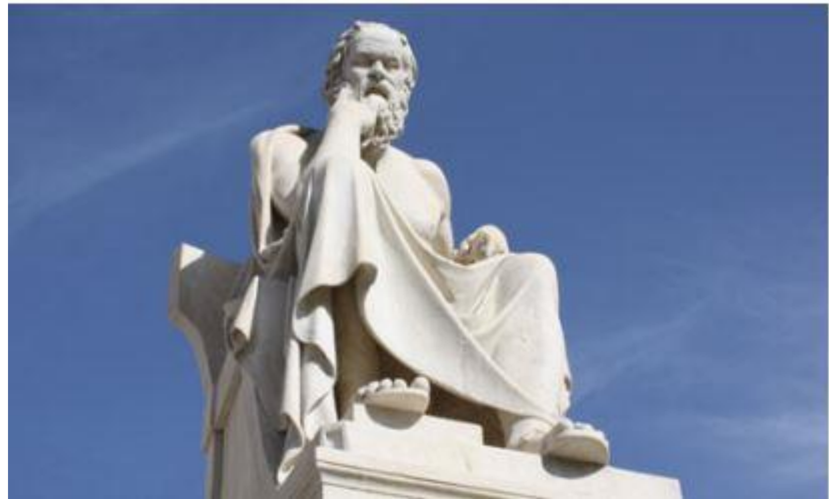
Euthyphro. Why not, Socrates?

Socrates. Why not! Certainly, as far as I am concerned, Euthyphro, there is no reason ‘why not’. But whether this admission will greatly assist you in the task of teaching me what you promised, is a matter for you to consider.

9e **Euthyphro**. Yes, I should say that what all the gods love is pious and holy, and on the other hand, what they all hate, impious and unholy.

NOTES

NOTES



Socrates. Ought we to enquire into the truth of this, Euthyphro, or simply to accept the mere statement on our own authority and that of others? What do you say?

Euthyphro. We should enquire; and I believe that the statement will stand the test of enquiry. It seems correct.

10a

Socrates. We shall know better, my good friend, in a little while. But consider this question: is that which is pious or holy loved by the gods because it is holy, or holy because it is loved by the gods?

LEARNING CRITICAL QUESTIONING

Before you read on, stop for a moment and attempt to reconstruct Euthyphro's progress. He offers a number of definitions of *piety*. What is he trying to get at? What is Socrates trying to get from Euthyphro?

A crucial skill in doing philosophy is in learning how to ask questions and posit theoretically relevant answers. There are a number of areas in which one needs to ask questions, and one of them is while reading arguments and theories posited by thinkers you might not know or even understand all that well. This is *difficult* stuff, and I don't want you to think I am expecting you to get it right away. If you think you *did*, then dig deeper. There's always more than you think happening here. People who've done philosophy for decades still find questions and puzzles in texts like the *Euthyphro*.

What makes it difficult is that we all like to think we understand everything. But we don't. We can't. We need to engage in a conversation with the text, to ask questions and, with careful critical reasoning, attempt to find plausible answers to our questions in the text itself. This process will be a repeated throughout this text, a task called a *Critical Question*. And each time you read some philosophical text, you can be sure there will be an accompanying Critical Question task, which will, as you do more and more of them, enable you to think more carefully and clearly about philosophical problems and texts.

The important thing about Critical Questions (CQs), is that you ask a question that is *relevant* to the problem at hand, the problem or issue set that is currently being worked on. It's certainly true that many questions will come to mind during a reading, but it's also true that many of these will be irrelevant and unhelpful in any attempt to grasp the important issues under current investigation. For example, the *Euthyphro* is an important text that can be used to explore ancient Greece's understanding of justice, to discuss literary use of dialogue to make broader cultural points, to bring up important issues in the philosophy of religion regarding the relationship between divine knowledge and divine command, or even to explore the history of slavery in Western Civilization. If you're reading a text for a philosophy class focusing on religion, then your focus should be on religiously relevant questions; if it's for a literature class, then literary questions—and so on. Since you're currently looking at the very basics of *how to do* philosophy, the most relevant questions here are about the *process*.

So before you form your CQ (yes, one's coming right up, any minute now), get yourself some context by doing this little Task 5: go back through the reading and look at all the definitions of piety Euthyphro came up with (not the ones Socrates offers, just Euthyphro's). See if you can find each one.

DOING PHILOSOPHY

A big part of doing philosophy is thinking critically. Doing philosophy, as we noted in chapter one, entails philosophical analysis, which is comprised of defining terms and analyzing arguments. But it's rather impossible to do any analysis if you don't know what in the heck you are reading.

A common error among newbie philosophers is to jump into analyzing before attempting any understanding. Maybe they think they understand quite enough, thank-you. The problem is that, per the Rules of Discourse, most of what the noobs call "analysis" in this effort is in fact attempting to "win" rather than attempting to find the truth. Reading with a response at the ready, looking for a sharp rebuttal, holding tight to a quick put down or other "gotcha" talking point isn't analysis.

Critical questioning is a skill, and like all skills, it takes practice and training to develop. It forces us to follow the Rules of Discourse, to begin with the assumption that our opponent—in this case, the writer of the text we want to analyze—is probably smarter than us, is certainly more informed than we are, and is doing something more carefully and consciously than we might at first think. It requires us to break down what they are saying into parts—sometimes paragraph by paragraph, small supporting argument by small supporting argument—and treating these parts one at a time. It requires us set aside our own emotional attachment to certain ideas or claims. It requires us to test ourselves to see whether we're jumping to conclusions without adequate evidence, to see whether perhaps we're out and out wrong about what we "feel" to be true.

It's tough to do. But philosophers are tough people, who are willing and able to push themselves to the limits of belief in order first to understand. They know that feelings are often wrong, and that something has to be defended with evidence to earn the status of being (certainly, probably) true. Feelings don't cut it. So like athletes train their muscle memory in order to perform excellently, we will train our mental muscles to develop excellent habits of critical reasoning. And we'll do that through the use of the "critical question" exercise.

Write them down, something like this:

1. Piety is…..
2. Piety is…..
3. Piety is…..

This will help you get your mind into the context of critical questioning.

FORMING A CRITICAL QUESTION

The heart of doing philosophy includes attempting to understand others *from their own perspective*. The CQ task is designed to enable you to do just this. Here's how to complete this particular kind of task (so that you know precisely what I'm asking for each time a CQ task is assigned). There are *four graded criteria* for a CQ.

Prepare & Think.

Of course, the *very first* thing to do is read the philosophical text—more carefully, to *actively* read that text, taking notes, jotting down questions, and so on. Read that text like you're sitting in the same room as the author of that text, having a conversation. Author A is telling you all about his/her theory, and you're interrupting sometimes with questions, clarifications, and so on. Those are what you're writing in the columns of the text.

The *second* thing to do is to do what we just did with Task 5. Stop and think about the reading. What was the main point? What is the *main point* of the reading? For example, in the *Euthyphro*, it doesn't really matter too terribly much where Socrates and Euthyphro meet, nor that Socrates is being impeached by Miletus. This gives us a little context, but it's *not at all* crucial to the argument Plato is presenting to us. *So don't get bogged down in the details*. In some texts, there's one big claim that the author A is trying to support. Sometimes there are counter-arguments (what others might say against this claim) that A is trying to disarm or disprove. What is this main claim?

Ask a Question.

Once you have this all ready, you're set to begin the *third* thing—which is *the first graded part* of the CQ. Look at all your questions and notes. Which question leaps out at you as most important or puzzling, given the main issues that are relevant to class discussion or the philosophical issues at hand? *Write that question down*.

Give Context.

The *fourth* thing is to explain the importance of that question. There are a *lot* of things you could have asked that are relevant—why is *this* the question that seemed most urgent to you? It'll probably take you a few sentences to explain this, but it's crucial that you do so, because you'll actually be explaining it both to your instructor and to yourself. It'll also put the question into the context of the class discussion, making the issues at hand very relevant to your own class experience.

Pose a Plausible Answer

The *final* part of a critical question is the place where you're actually going to stretch yourself the furthest. Here is where you will do your very best to step *outside* of your own beliefs and biases. You are going to try to *answer your own question from the information you have in the reading.* That might seem confusing, actually, since you have to answer the question from the perspective of the author A, *not* from your own perspective. You want to say that, given what you *do* understand from A's text, that A would probably answer your question something like this.

> A COMMON ERROR AMONG NEWBIE PHILOSOPHERS IS TO JUMP INTO ANALYZING BEFORE ATTEMPTING UNDERSTANDING.

That might seem impossible to you. It isn't. And in fact, you do something a lot like this all the time. Think back on a time you've anticipated a very important conversation—say to break up with somebody or to prepare for a job interview or to tell your boss or parent something very important. Think about a time where you needed that conversation to go just right, and you wanted to plan for all possible contingencies. So you imagine how the conversation might go. You think, *if I say x, he'll probably answer y.* Now you don't *know* he'll answer y, but you have very good reason to suppose he might, because you know just enough about him to make a reasonable guess as to how he'd answer.

This is exactly what I'm asking you to do. You understand *something* of the text you read. So, based on what you *do* understand, and presuming the author is consistent and an intellectually honest thinker, what is a reasonable guess for you to suppose she or he would say? If the author A was sitting right across from you, how might A answer your question?

Write the CQ as a well-formed paragraph.

That's the critical question. In short, it's a task designed to give you the opportunity to develop a skill in critical analysis. It's also designed to improve your written communication skills—skills that you'll need to perfect for any professional career, whether it be so that you can write standard operating procedures for a water plant or safety protocols for a construction site (that is—it's necessary for blue collar jobs just as much for office jobs!).

Since the CQ is a *written* assignment, it has a very specific shape requirement: a standard paragraph. The *topic sentence* that frames your paragraph will be your question (though written as a statement, of course), and the rest of the paragraph will explain that question.

Part of your grade will hinge on how well you follow directions by writing a paragraph—because part of critically thinking and part of succeeding on the job is following directions.

CQ MISFIRES

It might be helpful to see what is *not* a good CQ. In short, something fails to be a good CQ if it fails to meet any of the five criteria listed above.

One way to do that is to fail even to ask a question (or voice a worry). Here's an example of such a misfire:

> *Euthyphro says first that piety is doing what he's doing, then that it's doing what the gods like, finally, doing what is loved by all the gods. Then he and Socrate go round and round about which comes first, the chicken or the egg. They don't seem to get anywhere, in my opinion. I think Socrate is just trying to find a way to get out of his own problem in court*.

Actually, this gem is chock full of errors. First, there isn't a question here at all. Certainly frustration is legitimate (and please, voice it!), but don't replace critical thought with an emotional outburst. Rather, analyze your frustration. Think about the Rules of Discourse. Narrow your thinking to the issues at hand. Don't get sidetracked by emotions. A second issue here is that this paragraph shows that the writer only *sort of* did the reading. But then again, if the writer *did* do the reading, then s/he'd know how to spell "Socrates." So maybe not.*

Another way is to "point-and-click": to write a question that shows absolutely no evidence the text was read—a question one could make simply by pointing at a certain passage and BS-ing about it for a paragraph—or by referencing the text so generally it looks more like the consequences of a Cliff's Notes overview or a quick trip to Wikipedia than a close philosophical reading of the actual text itself. Yes, Virginia, we can tell the difference. Here's an example of how such a misfire might look:

> *I really like how Euthyphro avoids answering Socrates' question. I mean, piety is something so broad as to be indefinable. I mean, what's pious depends totally on what each person thinks for himself. Since all the gods don't agree on things, and anyway, how could anyone know whether the gods all agree on something? It's impossible*.

One exciting problem with this attempt is that it also skirts quite close to a commitment to relativism. Another, if you notice, is its problematic grammar. Make sure you use the CQ as a tool to improve how you communicate in writing (which is important no matter what career path you follow). Slow down and check grammar along with spelling. And if you are unsure, take a few CQs to your college's writing lab for assistance. You'll be glad you did,

A HELPFUL TIP

Good critical questions are ***open*** questions. They work to open doors of discussion. They can't be easily answered with a specific fact or affirmation/denial. We're looking for philosophical discovery, not fact checking. A good CQ will enable you to dig deeper into the text, to become a more insightful thinker.

Pretend you're playing Minecraft. An excellent CQ will dig at that block that suddenly opens up for you caverns to explore deep underground. You might not always construct fabulous CQs, but strike each one in the hope that you break open the text into fantastic vistas of deep, unexplored territory, awaiting the bite of your diamond pickaxe.

Doing philosophy is hard work. But then, so is playing hockey, football, WoW, Witcher, or Assassin's Creed. So is mastering the piano, raising kids, making dinner, driving a car, and living within a budget. Some of these might not seem like work to you, because you've focused so much energy on practicing, doing, redoing, learning, and making things habit that they've become natural.

You've developed skills, learned what to pay attention to. You invest time in these, and as a consequence, you get better and better. I only expect you to give the same sort of effort here as you would anywhere else you want to do well. And you'll get better over time. You'll learn how to think philosophically the same way you learn how to ride a bike. By trying. And failing. And trying again. You'll get the knack if you keep on trying. I promise.

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* Here's a heads up for you: every instructor gets peeved when students misspell (or mispronounce) names. Heck, *you*'d get miffed if people constantly screwed up *your* name. It shows that people just don't care, aren't paying attention. It dehumanizes you, otherizes you, makes it that the person saying/writing your name defines you instead of you defining yourself.

The specific error here: The philosophers' names that are most often abused end in 's'. If a name ends in an 's' don't omit it. Those named Gus, James, Angus, Dallas, Elvis, Louis, and so on are not generally truncated as Gu, Jame, Angu, Dalla, Elvi, and Loui, so don't do this to Socrates or Descartes! (On the flip side, don't *add* an 's' where it doesn't belong, which unfortunately often happens to writers discussing A.J. Ayer.)

Take time to check spelling. Don't trust your computer's very limited dictionary (be smarter than the machine). And when talking about important thinkers—treat them with respect (Rules of Discourse). Make sure you're spelling/pronouncing their names correctly. It's the least you can do.

especially if you invest the effort to learn how to write better.

A third ways is to break one of the Rules of Discourse, usually by answering it from your *own* perspective, and not trying to get into the author's perspective, which often results in either concluding something stronger than you have evidence for, voicing an unsupported opinion, or treating the author as an idiot because you disagree with her/him. Here's an example of this:

> *Plato gives us a dialogue between Socrates and Euthyphro, trying first to figure out a working definition of piety, and then testing that definition to see how piety relates to the will of the gods. I don't get why Socrates doesn't accept anything Euthyphro says. If he knows the answer already, then why does he waste their time asking? This is what Plato does in all his dialogues, and it gets really annoying. I think Plato just likes messing with us, to show us that everything is complicated and that there really aren't any answers.*

This breaks the discourse rule that tells us to consider the argument as rational, to interpret Plato as intelligent and doing important work in the dialogue. Rather, it is minimizing him as annoying and maybe even spiteful. This does not demonstrate any engagement with the issue at hand, and in fact shuts down any useful lines of thought. Think of it this way: you're trying find something that the thinker might say to answer the question you've asked. Nobody is going to say "Nah. I was just messing with you. I'm a jerk like that." These thinkers are smart and careful. Surely they've got good reasons and explanations. Give them that much.

One last way a CQ writer can misfire is by getting off point.* Here's an example of that:

> *Euthyphro is supposed to supply Socrates with a definition of piety, since he is supposedly the expert on all things pious. But he weasels his way out and eventually throws up his hands. My question is why Socrates doesn't help Euthyphro actually reach the definition he wants. This is important to me because the whole discussion is about these two guys trying to find ways to strengthen their own court cases. But no matter what they come up with, Socrates knocks it down as unhelpful, wrong, or contradictory.*

Unless the discussion is about legal matters, this question is irrelevant. Since in this text and in this class, the issues are philosophical (not legal), such a question is wholly off topic. It's very easy to ask questions that seem interesting or important to you, but unless those questions relate to the discussion at hand, they're inappropriate. Also, since the CQ *requires* you to find an answer for the question (to the best of your ability), this attempt fails because it doesn't even pretend to offer Plato's answer.

AND NOW, WHAT WE'VE ALL BEEN WAITING FOR: *THE ASSIGNMENT*

Now that you understand the CQ task, here's CQ 1. Write a CQ on the *Euthyphro*, focusing especially on the issues of how to do philosophy or what counts as a good definition. Do this ***before*** you do anything else.

The importance of a CQ is that it gets *your own* thoughts on the table, and prepares your mind for discussion that follows. Don't expect answers to your CQ in this text. Rather, see the CQ as preparation for your active involvement in class discussion.

Oh, and a final thought. Sometimes, if you're very lucky, while you're attempting to answer your own question from the perspective of the author, you might actually discover an answer, learn something about the text, have a flash of insight. This does *not* mean that you need to find a new question. Write your CQ, and revel in the wonderful feeling of having learned something difficult through critical analysis.

After all, this is the point of the assignment.

* Actually, there are a *lot* of other ways one can misfire, but if you guide your writing by the Rules of Discourse, you should find yourself avoiding all of them.

STANDARD FORM

Let's start with a definition of *standard form.*

> *X is a* ***standard form*** *of something P iff x is the formalized presentation of P.*

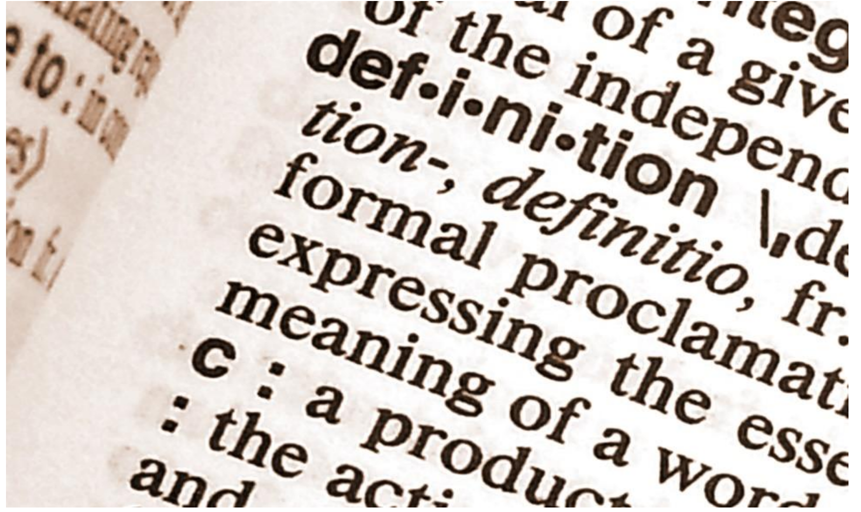
Think of it in the same way as we think of the standardized forms we fill out for everyday activities. A check (remember them?) or a money order is a standard form that expresses a legal exchange of money. A job application is a standard form that represents the applicant's desire and suitability for a certain position. A W4, W2, or 1040 is a standard form that communicates one's desired withholdings, actual withholdings, or tax responsibility accordingly. There are *all sorts* of standard forms—or standardized formats.

Here, we'll look at a lot of things in their standard form to make things especially clear and concise—because (as we'll see), ambiguity and vagueness are often enemies of the truth and always barriers to understanding.

We will use the standard form of definitions and arguments in our discussions. But before we can find a standard form of a definition, we need to determine which *kind* of definition gives us enough clarity and precision to have a standard form. To do that, we need to consider the different kinds of definitions.

PHILOSOPHERS LOVE SHORT CUTS.

WE NOT ONLY SHORTEN ARGUMENTS AND DEFINITIONS INTO STANDARD FORM, BUT WE ALSO USE THE ACRONYM 'IFF' FOR THE PHRASE 'IF AND ONLY IF'.



DIFFERENT KINDS OF DEFINITIONS

In the *Euthyphro*, Socrates is backstage, if you will, right before his own trial, faced with Euthyphro who is—by Athenian standards—acting extremely impiously by charging his father as a criminal for doing something that was far from criminal behavior.[*] In fact, Euthyphro is acting supremely impiously, even as he claims to be The Expert on piety. Thus, in his characteristically annoying and precise way (Socrates called himself a necessary corrective for arrogant Athens: 'a horsefly on the ass of the *polis*' was his self-description in the *Apology*), he confronts a self-proclaimed expert on his area of expertise, and asks what this is. [†]

A fair question. If you the go-to guy about x, then one would think that you'd know more about x than anyone else. If asked what x is, you should be able to offer a clear definition. And if you're claiming that x is the total opposite of what everyone in the whole land thinks x to be—and has thought x to be for all memory—well then, one would expect you to have a very careful explanation of not only what x is by your lights, but why your account is better than the traditional one.

So what does Euthyphro understand a proper definition to be?

[*] Note that although the background conditions of his action might bother *us* quite a lot, what you might try to wrap your mind around is that Euthyphro was effectively charging his father with a criminal offense when all he'd done was lock a suspected murderer up where he could not kill or harm anyone until he faced trial. Also, in Greek culture, one was to defer to one's elders as a point of piety and honor.

[†] Remember Euthyphro when we enter inductive reasoning and consider the problems that arise if we appeal to unjustified authority!

OSTENSIVE DEFINITIONS

The first kind of definition is called the ***ostensive*** definition. It comes from the Latin word *ostens* which means to present or display. Thus, when, for example, a six-year-old asks you what something x is, you might *point to it* (present it, display it). What's a chair? *That thing*, you say, presenting it by aiming your finger at it. Ostensive definitions are perhaps the most basic kind we use. It's the first one we use as infants. *Where's your nose? Where's your eye? Where's my nose?* The baby will dutifully point...and giggle.

We can point with fingers or words. Thus, in the dialogue you just read, Socrates asks Euthyphro what *piety* is. Euthyphro's answer? *What I'm doing*. An ostensive definition. This thing right here.

But how does he know what he's doing *is in fact* pious? What exactly is piety? It's really quite impossible to point at a concept. We can define physical objects ostensively—if we already know what they are! I can only indicate *that thing* is a chair if I already know what *chairs* are.

In fact, the ostensive definition is that definition that *demonstrates* all the properties a thing must have in order to be that thing (and not something else). It's the definition that points to one or more examples to which a term can be applied.

So what if somebody asked you what, say, *glphyric* was? If you didn't already know what sorts of things were necessary to *glphyric* and what sorts of things were not essential to being *glphyric*, you'd be unable to point it out in a line-up.

LEXICAL DEFINITIONS

You might decide to find out what *glphyric* is by looking it up. This would be to look at the term by finding out how it is *used* in language, to find the ***lexical*** or dictionary definition. This is the next most common way we define things. And it often is quite useful. But then suppose you find something like this:

ĝl·phy·ric

adjective
1. having excessive glphyic tendencies.
2. an overexposure to glph.
3. from the land of Glphyr.
4. tempered with glphynium.

origin
1066-1100 Medieval Gaelic, equivalent to the Indo-European *glaachfir*: variant of *glaachfyrycus*. (gl) + (phy) + (r) = noun. From glph. + (ic) = adjectival ending (Gr, added later). Alternate forms include *glphyrive* and *glyphrible.*

Golly, that helped a lot!

Just like the *ostensive* definition, the *lexical* definition presupposes we already know something. Notice here we've got *four* options. Which one is right in the current context? Which one is the thing you want defined?

Lexical definitions are great if we want to know all the many ways a term is used. They might even be great in narrowing the term down, but they don't tell us *which one is right* for the given situation. If we know that when we look at a dictionary definition, it's because we *already* know something else that guides us towards the right meaning.

OPERATIONAL DEFINITIONS

Some things—certainly not all things—can be defined in terms of what they *do*. Generally, these definitions are offered in the context of an experiment or in experimental terms. These definitions are often presented in science classes, for example.

Your instructor asks you how you know something is an *acid* or not. The first ***operational*** definition of 'acid' (the one you might be more familiar with) is "a chemical substance that turns litmus red and dissolves some metals." A more technical one is "a molecule or other entity that can donate a proton or accept an electron pair in reactions." Notice how *both* of these definitions tell you what an acid *is* by telling you what it *does*. It turns litmus red. It dissolves some metals. It donates protons or accepts electron pairs. If it's an acid, it can *do* certain things.

We define a diamond as a mineral that can cut anything (because it's harder than everything else). Graphite as a mineral that can write on things. Operational definitions are *pragmatic*; they rely on practical application.

But we can't offer an operational definition for abstract concepts very well. If something doesn't *have* a function or action, then it cannot be defined operationally. Furthermore, if a number of things can do the same operation, this operation cannot adequately define something in particular. For example, I cannot define a cat as "a mammal that meows." I can't do that because, well, frankly, humans can meow and not all cats can. If I say the cat is an animal that catches and eats mice and small birds, I get stuck with all sorts of other kinds of animals (humans included), and have no clarity.

In short, operational definitions are fantastic in some cases, but far from all. And only in a very few of the cases where operational definitions apply do we get a clarity that grants us full understanding.

THESAURUS DEFINITIONS

One obvious area where operational definitions don't work is when we're trying to figure out what words mean by reference to other words. This kind of definition is called a ***thesaurus*** or synonym definition. Let's go back to my made up word *glphyric*. I might tell you that *glphyric* means the same thing as *abstract* or *undefined* or *undetermined* or *unknown.* This way of defining is by reference to synonyms, hopefully to words you already know. Of course, words don't mean precisely what their synonyms mean. Consider:

The word *small* can mean the same thing as *teensy* and *minuscule* and *petite* and *less* and *pocket-sized*—depending on contexts, of course—but *petite* does not mean quite the same thing as *pocket-sized* and certainly does not mean the same thing as *young* or *minuscule*! Small things might be insignificant sometimes, but insignificant things aren't always small. Small things aren't all petite. We might say the young elephant is small for its age, but surely wouldn't consider it petite. The tiny pathogen is certainly not insignificant if it winds up in your lungs. And that petite grandmother isn't likely immature or trivial, all of which are synonyms with 'small.'

In short, synonym definitions don't give us the clarity we want, though they can get us closer to the sense we desire—if we already know what we want.

Vagueness v. Ambiguity

Suppose we have a term we know already, but it's a bit unclear. There are *two* ways a term can be unclear: it can be vague or it can be ambiguous.

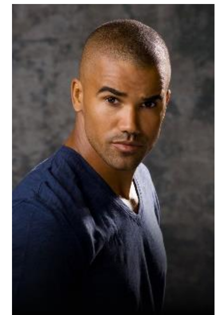
Vagueness

> *Statement or phrase x is* ***vague*** *iff the meaning of x contains borderline cases.*

For example, consider the term *bald*. We can say it's pretty obvious that one of these brilliant actors is bald and the other isn't. Sir Ian McKellen is sporting a full head of hair, and Sir Patrick Stewart is quite bald.

But what about these guys?

It's obvious that Jason Alexander and Shemar Moore both have hair on their heads. But are they bald? Well—more—or less. These two demonstrate the vagueness of the term *bald.*



Vagueness needn't be a bad thing. But when a claim is so vague that it cannot convey appropriately useful information, it is pretty bad. We call that sort of claim ***excessively vague***. And we'll do so by means of definitions.

Ambiguity

*Statement or phrase x is **ambiguous** iff x has two or more non-overlapping meanings.*

Consider the word *pitch*. What does it mean? Before you continue reading beyond the comic that immediately follows this, here's Task 6:

Make a list of eight to ten different meanings of the word 'pitch.' Before you give up and look in the dictionary (you cheater, you), spend time thinking hard about this and see if you can come up with most of them on your own.

Consider this comic as a kick start for you.

Armed with your list of *pitches*, you should by now be aware of how ambiguous a term 'pitch' is. Each meaning is distinct from each other, and, like for Calvin at the campout, mistaking one meaning for another can cause serious problems.

PRECISING DEFINITIONS

To avoid vagueness, we can present a ***precising*** definition. We can, for example, say that *bald* will only refer to people with no hair at all on the top of their head (thus excluding Jason Alexander and Jude Law from consideration). We might also further narrow things down by saying that a short crew cut or peach fuzz still counts as not bald. We'd then have a very *precise,* a very *exact* use of a term.

STIPULATIVE DEFINITIONS

One way to avoid ambiguity is to offer a ***stipulative*** definition. This sort of definition sets up *exactly* what meaning is to be understood at the first presentation of the term. It stipulates that the term will mean x and only x exactly. So we might say that *pitch* will mean only to 'set up a tent' removing all ambiguity by removing all alternative meanings from the current discussion.*

ANALYTIC DEFINITIONS

But *by far* the best way to avoid vagueness and ambiguity—and the fallacies that can come from the latter—is by offering an ***analytic*** definition, or what we'll call a ***conceptual analysis***, which is an attempt to explicate what the *concept* x refers to. A conceptual analysis offers *necessary and sufficient* conditions for something to be so conceptualized.

This is the most precise kind of definition *because* it establishes (or expresses) these conditions. When you offer an ostensive definition, you're looking at things that meet these conditions, which presumes you already know them. When you offer any other kind of definition you need this one for understanding and clarity, and if you don't have it explicit in your mind, you risk the problems of ambiguity fallacies.†

A conceptual analysis is thus the kind of definition that is so exact and clear that it has a (by now somewhat familiar) *standard form*:

> *X is an F iff x is a G.*

In that form, let "F" be any concept that you are trying to analyze, and let G be those necessary and sufficient conditions (indeed, 'iff', which is short for 'if and only if'

* Sometimes, a person who is introducing new concepts or issues will begin by stipulating what their terms will mean. Thus, sometimes stipulative definitions jump start a whole discussion. We'll see this when we discuss philosophical issues about God, minds, bodies, free will, and human nature.

† These include *equivocation, amphiboly, accent, composition,* and *division* among others. They are all informal fallacies, and will be discussed soon. By the way, *x is a **fallacy** iff x is an argument 'gone bad.'* There'll be better definitions for fallacies when we discuss arguments more directly. But for now, look for bad arguments, and you'll find fallacies.

just means 'the following are the necessary and sufficient conditions" for whatever concept term 'iff' follows).

Necessity & Sufficiency

More carefully, ***necessary*** means that *only things that are F are G*. That is, you won't find anything that is F that isn't G. For example, only mammals are cats. No marsupials or amphibians are cats. Just mammals. Thus:

> *X is **necessary** for y iff y cannot possibly be (exist, obtain) without x.*

And ***sufficient*** means that *all things that are F are G*. So all cats are mammals. Notice that sufficient and necessary *are <u>not</u> the same thing*. All cats are mammals ('cat' is sufficient for 'mammal') but *not* all mammals are cats (so 'mammal' isn't sufficient for 'cat'). There are mammals that are dogs, humans, whales, polar bears. And though 'mammal' is necessary for 'cat' (only mammals get to be cats) we still can't say that 'cat' is necessary for 'mammal' (it's not true, like we said, that only cats get to be mammals). Thus:

> *X is **sufficient** for y iff x guarantees the presence (existence, obtaining) of y.*

Thus, *necessary* and *sufficient* are in a symbiotic and asymmetrical relationship. They play well together. But when we have a conceptual analysis, we find that *both* F and G are *necessary and sufficient* for each other. When we say G is necessary and sufficient for F, we're saying that *all and only G things are F things*. And *all and only F things are G things*. It goes both ways.

Back to Euthyphro and Socrates. Socrates attempts to get at what it is for something to be pious. Euthyphro's first definition is ostensive ("what I'm doing"). Unhelpful. Eventually, he comes to a general definition that after some precising definition work, states that whatever is loved by all the gods is pious, and whatever isn't, isn't. Put this in standard form, and you get

> *X is pious iff x is loved by all the gods.*

You will notice that I've been writing definitions in standard form all along. Now you can—and should—too. In fact, here's Task 7: Write conceptual analyses (or analytic definitions) for the following terms. That is, *in standard form*, present the necessary and sufficient conditions for these terms. You'll want to check yourself to see whether any exceptions sneak in or you accidentally leave anything out.

1. unicycle
2. square
3. hybrid car
4. US citizen
5. clock
6. ice

EUTHYPHRO'S DEFINITIONAL JOURNEY

Let's slow down for a moment and look at the definitions Euthyphro offered, and why Socrates was initially unimpressed.

Euthyphro is a well-known expert in piety. He's the go-to guy. So, since Socrates has been charged with impiety (and because Socrates is a bit of an ass), he challenges Euthyphro to give him an analytical definition of *piety.* That is, he asks Euthyphro (in my paraphrase), "what are the necessary and sufficient conditions for something, in order for it to be pious?"

Euthyphro answers Socrates—but only partially. When he says, "Doing what I'm doing," he's really offering only a *sufficient* condition. That is, ostensive definitions give us that guarantee. If you see this kind of thing, by golly, you're guaranteed to see piety. But the problem of only offering a sufficient condition is that you leave too many things out. Surely, Socrates comments, surely there are more things than just this activity that are pious things. This alerts Euthyphro to his error. Offering only a sufficient condition is offering ***too narrow*** a definition.

Euthyphro's smart. He recognizes his error immediately and offers a conceptual analysis (analytic definition) that fits the bill, and it's this definition that Socrates and Euthyphro together begin testing.

But what if Euthyphro hadn't been so quick on the draw?

There's another error we can make in our attempts to give good conceptual analyses. If Euthyphro offered only a sufficient condition, it is also possible to offer only a *necessary* condition. And if this is all you offer, your result is a definition that is ***too broad*.** Where Euthyphro's error was leaving out too much, this error would allow in too much.

This error is discussed by Socrates and Euthyphro when they analyze what "god-loved" means. You see, if we say that being god-loved is necessary for x to be pious, we might (as Socrates notes) find a lot of things the gods love that we're not sure we want to call pious things.

For modern thinking, let's offer only a necessary condition for Metropolitan Community College (MCC) student. One must be registered for college courses. But if you leave it at that, then you let in any college student in the world—students at Purdue, Gonzaga, Ivy Tech

Community College or, for that matter, at Oxford or University of Beijing. Being registered for college courses is necessary, sure, but allows a lot into the category "MCC student" that doesn't belong there.

Thus, the proper analytic definition (or conceptual analysis) requires *both* sufficient *and* necessary conditions. If you leave out the latter (by offering only a sufficient condition), your definition is too narrow. And if you leave out the former (by offering only a necessary condition), your definition is too broad.

Only both conditions give us a baby bear "just right" conceptual analysis.

SENSE & REFERENCE

The philosopher Gottlob Frege helps us out of the Paradox of Conceptual Analysis (see side bar). And he does so by helping us notice two important parts of meaning. The trap here is in confusing *sense* d *reference*. Once we distinguish these, we escape aradox.

There is an important difference between some individual thing x and whatever one *calls* x. Take this example: there is a particular individual known variously as "Spiderman" and "Peter Parker."

"Peter Parker" (the name) has a different ***sense*** than "Spiderman" (the name), even though *both* names have the same ***reference***—one person. So *reference* has to do with the relationship between the name and the thing being named (the term *refers to* the thing), whereas *sense* has to do with the 'feel' or connotations of the name or term.

> *X is the* ***reference*** *of term T iff x is the object O to which T points.*

> *X is the* ***sense*** *of T iff x is the way in which T points to O.*

Certainly "Spiderman" carries the connotations of web-slinging heroics, whereas "Peter Parker" carries connotations of journalism photography and social awkwardness. They have *different* senses, even though they refer to the *same* person. We can use this distinction—by realizing that F and G can have different *senses* and yet the same *reference*—we can see an analysis as neither trivial nor false. Sigh of relief! We can continue defining terms meaningfully.

THE PARADOX OF CONCEPTUAL ANALYSIS

It is *very easy* to fall into a conceptual trap, especially when trying to pinpoint a proper conceptual analysis of that thing. But that's not the only trap awaiting us when we seek to define terms.

Here's a disturbing, and *valid* argument (called the Paradox of Conceptual Analysis, or the PCA):

1. If concept F is synonymous with analyzing expression G, then no information is conveyed, and the conceptual analysis is *trivial*.
2. If F means something different than G, then the analysis is *false*.
3. Either F and G are synonymous, or F and G don't mean the same thing.

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4. So, either the analysis is trivial or it is false.

What does this mean? Well, consider:

I want to know what "piety" is. But if I say "Piety is x" and (by Leibniz's Law) I thus know that Piety is identical with x (which it is), then I didn't get any knowledge from the definition. Stupid. Trivial. What a waste of time. On the other hand, if my definition x is *not* identical with Piety, then I have a false analysis. It's *wrong*!

So if it's correct, it's a yawn, meaningless. It's a waste of time. And if it's not correct, it's a waste of time. Yikes! Still, it seems that it isn't trivial when it's correct. We *do* learn something when we define terms. So how do we escape this trap?

Maybe we need to figure out the nature of the trap itself.

DEFINING FALLACIES & AMBIGUITY

When we think of reasoning, we should be able to see rather quickly that people can do it well or poorly. Good reasoning is a skill developed via critical thinking. Poor reasoning, unfortunately, comes quite naturally. More carefully, we can say that reasoning is a skill like driving, cooking, reading, or calculating. If you don't practice the skill, you won't be all that great at it, although some people start with more of a 'knack' at it than others. Natural talent, however, is no substitute for consciously-developed skill.

FALLACIES

Bad reasoning comes from manipulated, sloppy, unreflective or disorganized thinking. When it actually takes the shape of an *argument*, a string of bad reasoning is called a ***fallacy***. Any bad argument is—by default—a ***fallacious argument*** (or simply, a 'fallacy'). So to give us a working definition:

> *X is a **fallacy** iff x is an argument that fails to be either valid or strong.*

We'll understand what 'strong' and 'valid' mean in chapter 4, but for now all we need to know is that these are terms that apply *only* to good arguments. It turns out that (given bivalence), for any argument A, either A is good or A is not good, and it cannot be both.[*]

A fallacy is thus always an *argument*. It isn't just a bad (or mistaken) statement or claim, but will include some attempt to *prove a claim*, though will always do so badly. Generally speaking, there are two basic categories for fallacies: formal and informal.

> *X is a **formal fallacy** iff x is an argument with a flaw in the form (or shape) of the argument's structure.*

These fallacies arise when the logical *shape* is incorrect. We'll see that conclusions derived from poorly constructed arguments will always lead to invalid arguments. Thus, formal fallacies are almost always instances of bad *deductive* reasoning.[†]

> *X is an **informal fallacy** iff x is an argument with a flaw in the assumptions behind the premises or in the truth of the premises themselves.*

Informal fallacies are pretty opportunistic. They show up in any form of argument, inductive or deductive alike. They're not picky. If they can wreck an argument, they will. And in fact, it turns out then that if we want to get really precise, *any valid argument that is unsound is a fallacy*.[‡] Yikes! We won't get that picky. We *will* say that any argument that makes illegitimate assumptions or unjustified claims is fallacious.

But we haven't yet discussed arguments, I hear you thinking. How in the heck are we supposed to know what counts as a bad argument if we don't even know what a *good* one is?

Great question, glad you asked.

You can't. Just like you can't know that a certain piece of paper is counterfeit money unless you can identify good money, you can't identify bad reasoning unless you already know the good stuff.

Mostly.

> Statements cannot be fallacies—only arguments can!

AMBIGUITY

Some informal fallacies mess with assumptions regarding language itself. And since you now have some expertise on both what ambiguity is and how to get rid of it, we can look at the category of informal fallacies called the ***ambiguity fallacies*** (or sometimes the *fallacies of language*).

Recall that

> *Statement or phrase x is **ambiguous** iff x has two or more non-overlapping meanings.*

This lets us understand that

> *X is a **fallacy of ambiguity** iff x is a fallacy that requires an ambiguity of some sort (the conclusion of the argument follows only because of the ambiguity).*

There are *four* kinds of ambiguity which concern us here. Four more definitions:

> *Claim x is **semantically ambiguous** iff x contains an ambiguous word or phrase.*

> *Claim x is **syntactically ambiguous** iff x is open to two or more interpretations due to its structure (its syntax).*

> *Claim x contains a **grouping ambiguity** iff x contains at least one grouping term that can be used either to refer to the group as a collection or to its individual members.*

> *Claim x contains a **phonetic ambiguity** iff x contains at least two meanings determined solely by means of pronunciation emphasis.*

These four kinds of ambiguity lead naturally into four kinds of ambiguity fallacies, which we'll explore next.

[*] For the laws of bivalence, refer to chapter 1.

[†] They can fall in bad inductive reasoning if the inductive arguments are patterned after deductive forms or if the inductive arguments are reliant on their structure for strength. In this book, we'll also find a couple formal fallacies in statistical reasoning (which is a kind of inductive reasoning).

[‡] Chapter 4 will also explain what *unsound* means.

SEMANTIC AMBIGUITY & EQUIVOCATION

The first kind of ambiguity shows up when we're unsure of what a given phrase or word means. Consider the following examples:

- BJ is cold.
- Aunt Wilma never used glasses.

In the first case, we might think that BJ is needing a sweater, but we might also read that sentence to mean that she is less than compassionate. In the second case, we might understand the claim to be about Aunt Wilma's eyesight—or it might mean that she drank her whiskey straight from the bottle. Consider the semantic ambiguity at play here:

Phrases can be ambiguous this way, and usually we can avoid confusion by context. Often they're used for comedic effect, like this by Groucho Marx:

> *Outside of a dog, a book is man's best friend. Inside a dog, it's too dark to read.*

But there are times when this very ambiguity is capitalized upon—deliberately or inadvertently—in arguments. Here's an example.

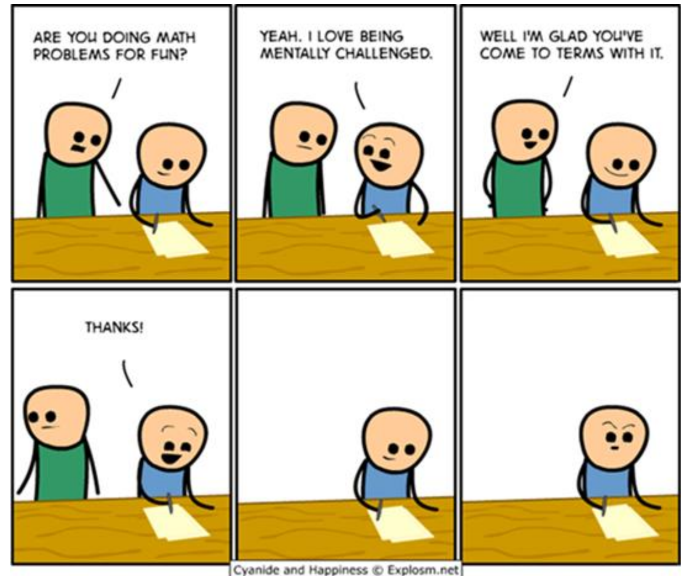
1. The average family has 2.5 children.
2. Laura's family is average.

---

3. So Laura's family must have 2.5 children.

Notice the ambiguity in the meaning of the word 'average.' In 1, it means 'statistical mean.' In 2, it means 'ordinary.' For 3 to follow from 1 and 2, the meaning of 'average' ***must change*** *and* ***both meanings must be used***.This fallacy is called ***equivocation***. It comes from the Latin *equi*, meaning 'equal' and *vox*, meaning 'voice.' It literally means 'with equal voice' and notes how more than one meaning are given *equal voice*.

> *Argument x is an* ***equivocation fallacy*** *iff x requires semantic ambiguity for the conclusion to follow from the premises. This can take two shapes:*
>
> 1. *A term T that appears in multiple premises has a distinct meaning in each (T means m_1 in premise 1, m_2 in premise 2), and the conclusion does not follow without a shift from m_1 to m_2.*
> 2. *T means one thing in the premise(s) of the argument, but something entirely different in the conclusion (in the premise, T means m_1 but in the conclusion, T means m_2).*



The problem is that when we talk, we need our words to be 'nailed down' as it were. Following the laws of bivalence,* we need, in any given context, words like 'average' to mean one thing.† We can't give multiple meanings equal voice—equal say—in what we mean. We need a word to mean one thing at a time!

Here's how bivalence applies. Suppose term T has two distinct meanings (like 'statistical mean' and 'ordinary' for 'average'). The first meaning m_1 ('statistical mean') is not identical with the second meaning m_2 ('ordinary'). Because $m_1 \neq m_2$, it follows that if you have *one* of them (say, m_2), it is *not* the other of them (m_1). Thus, if you have m_2, that's the same as *not*-m_1 (or $\sim m_1$). In short, because

---

* Remember: *Bivalence* is the partnership of the Law of Excluded Middle (LEM) and the Principle of Non-Contradiction (PNC).

† Please note that we're not talking about poetic uses of language, where ambiguity and vagueness are useful tools! Argument and logic are on the opposite end of the language spectrum from poetry, and there's no place for them here.

$m_1 \neq m_2$, we *know* $m_2 = {\sim}m_1$. Remember that if two things are identical, they must have all the same properties (Leibniz's Law). So since they *don't* have all the same properties ("statistical mean" isn't exactly the same as "ordinary"), they can't be identical. Blah blah blah. In short, because the meanings aren't identical, the term T must be used for one *or* the other in a given context, and *not both*.

Following bivalence, since $m_1 \neq m_2$:

$$(m_1 \vee {\sim}m_1) \;\&\; {\sim}(m_1 \;\&\; {\sim}m_1)$$

That's the logical reasoning (for anyone who is crazy enough like me to enjoy that sort of thing).

If that seemed confusingly mind-numbing, what you really need to understand is that an argument ***can't*** play around with semantic ambiguity. We can't move around between meanings. "Average" means "ordinary" or it means "statistical mean" in an argument, *not both*. We need to *define our terms* (get to one specific meaning) and *stick with these definitions*. This sticking-to-it is called being ***univocal***. That is, we need to speak with *one* voice (*uni* is Latin for 'one'). We can't have words moving around from premise to premise. They need to have *only one* meaning, or we'll never get any closer to the truth or to knowledge.

The structure of the argument really hasn't anything to do with the fallacy of equivocation. What makes this fallacy tick is the *movement of meaning*. But we can, for ease of reference, see a *pattern* of meaning switching from m_1 to m_2 (in fact, what we'll find is that patterns will be the bread and butter of our understanding throughout this quarter):

Equivocation Pattern 1

1. Statement uses term T with m_1.
2. Statement uses T with m_2.

---

3. Conclusion relies on both m_1 and m_2.

A slight variation of this pattern is just as common:

Equivocation Pattern 2

1. Statement uses term T with m_1.

---

2. Conclusion uses T with m_2.

Now look at these examples. Can you see how the fallacy works? What pattern is at play in the comic to the right? What are the different meanings?

For Task 8, pick ***five*** of the examples listed below and 1) state which equivocation pattern is in play, 2) state which word is being equivocated upon, and 3) state what each of the meanings are for that word.

- *Feathers are light, so they can't be dark.*
- *The sign said 'fine for parking here.' Since it was fine, I parked there.*
- *A Boeing 747 is a carpenter's tool since planes are carpenter's tools.*
- *Hot dogs are better than nothing. Nothing is better than steak. So hot dogs are better than steak.*
- *The humanity of the patient's appendix is undeniable. So the appendix has the right to life and should not be surgically removed.*
- *All rivers have banks. So the Missouri river has its own financial institution.*
- *We should always do what's right. I have a right to eat fried bananas. So I should always eat fried bananas.*
- *Critical Reasoning class helps you argue better. But do we really need to encourage people to argue? There's already enough hostility in the world!*
- *Liza was put in a class for exceptional students. But despite her age, she can hardly read at all! She was clearly put in the wrong class.*

Kerosene is fuel, Brian. Red Bull is fuel. Kerosene is Red Bull

SYNTACTIC AMBIGUITY AND AMPHIBOLY

The second kind of ambiguity has to do with the *syntax* or grammatical structure of a statement. Consider this famous line by Groucho Marx:

> *One morning I shot an elephant in my pajamas. How he got in my pajamas I don't know.*

Or this one:

> *Every third breath you take, someone dies. Of course, with your breath, I can understand why.*

Or this one:

Republicans turned off by size of Obama's package

It isn't any one *word* that is unclear; rather, the way the *whole sentence* is understood is tweaked. The sentence "I shot an elephant in my pajamas" can be understand one of two ways:

1. I was in my pajamas and shot an elephant.
2. I shot an elephant that was in my pajamas.

The sentence "every third breath you take, someone dies" can be understood in two ways, too:

1. Deaths happen as frequently as your every third breath.
2. Deaths are caused by your every third breath.

In both cases, the sentence is grammatically unclear. But common sense *can* tell us which meaning is to be preferred. Groucho's comments are funny because he deliberately chooses the wrong meaning and draws a conclusion from that one instead of the proper meaning.

When this sort of thing happens in an argument, it's fallacious.

The fallacy ***amphiboly***[*] takes its name from the same root that gives us *amphibian*—like creatures that can live both on land and in water, these sentences are comfortable in two different meanings. Both statements and arguments can rely on syntactic ambiguity (hence, be amphibolous), but *only arguments can be fallacies*. Examples of syntactically ambiguous statements include the following:

- *John saw the man with a telescope.*
- *Flying planes can be dangerous.*

Newspaper headlines are famous for such things:

- *Stolen painting found by tree.*
- *Somali tied to militants held on US ship for months.*

Finally, quite a cottage industry has arisen from 'church bulletin blunders' that contain hilarious amphibolies:

- *Don't let worry kill you off—let the Church help!*
- *For those of you who have children and don't know it, we have a nursery downstairs.*
- *Eight new choir robes are currently needed, due to the addition of several new members and to the deterioration of some older ones.*
- *Barbara remains in the hospital and needs blood donors for more transfusions. She is also having trouble sleeping and requests tapes of pastor Jack's sermons.*

The Characteristics of Amphiboly

Statements cannot be fallacies—*only arguments can*. So when we talk of the *fallacy* of amphiboly, we're talking about an *inference* from premise to conclusion, not just an ambiguous statement.

The ***fallacy of amphiboly*** has a very particular character that makes it rather simple to identify.

1. It is an *argument* that relies on syntactic ambiguity.
2. If the statement is understood in the *correct* way, the conclusion ***will not follow***.
3. If the statement is understood in the *incorrect* way, the conclusion ***will follow***.

This means we can define the fallacy thus:

> *Argument x is an* ***amphiboly fallacy*** *iff x is relies on syntactic*

[*] pronounced /am FIB o lee/

ambiguity, such that the conclusion only follows on the condition that the meaning of the ambiguous statement in the premise(s) is misunderstood.

"Make my speech so ambigious it doesn't matter *what* they take out of context!"

As we will see when we dig deeper into arguments, this means that the amphibolous argument is *always* invalid or weak. The conclusion *only follows* if the premise from which it is drawn is *misunderstood!*

A famous example from history comes from Herodotus, who writes that King Croesus of Lydia asked the oracles what he should do about the pressing threat of the Persians. The Oracle of Delphi responded that if he led an army against the Persians, he would destroy a great empire. Let's look at this as if we are Croesus.

1. The Oracle says that if I lead an army against the Persians, I will destroy a great empire.

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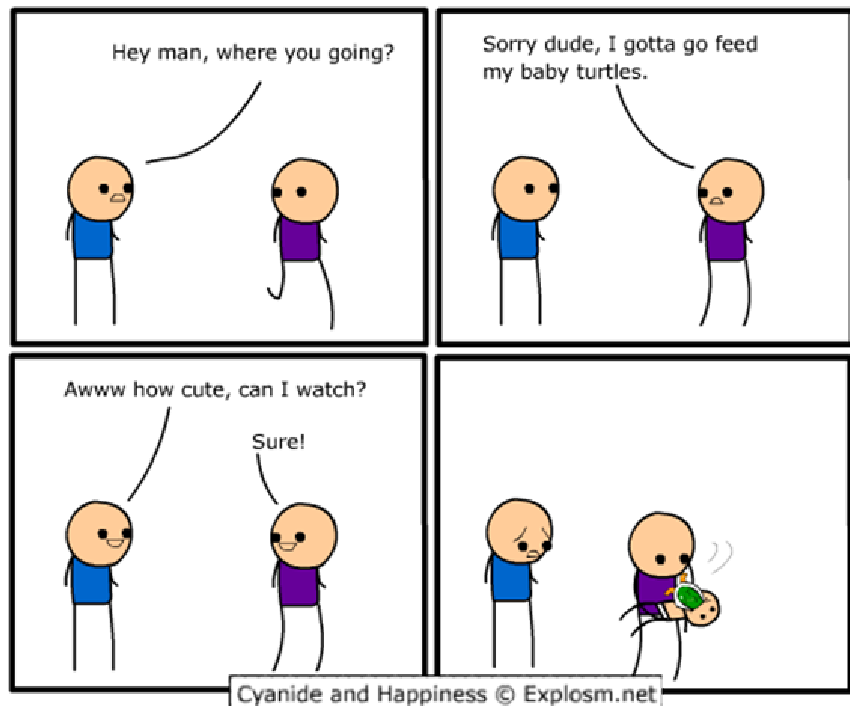
2. So I am going to *win* this war!

But Croesus lost miserably. *His own Lydian empire* was destroyed.



Croesus made his conclusion based on an ambiguous statement, rather than stopping to clarify what exactly was meant.

And it's now time for Task 9. Below are a list of amphibolies. For each one of them,

1) state *both* of the possible meanings of the syntactically ambiguous statement;
2) determine whether the amphiboly is merely a syntactically ambiguous statement or a fallacious argument; then
3) state why it is or is not a fallacious argument.

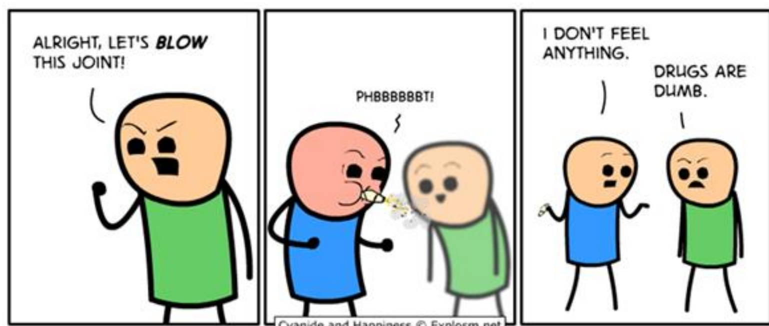
- *Save soap and waste paper!*
- *Removing the luggage from the car, Dr. Frankenstein says, "Igor, will you please help me with these bags?" Grabbing Elizabeth's arm, Igor responds, "Certainly, you take the blonde, and I'll take the one in the turban!"*
- *Helicopter powered by human flies!*
- *I saw a headline that read that 'elderly often burn victims.' I had no idea they were so vicious!*
- *The album is titled Best of the Beatles. I bought it expecting it to be a greatest hits album, but it was just some tunes by former Beatles drummer, Pete Best.*

Boy paralysed after tumour fights back to gain a black belt

A BOY left paralysed after a brain tumour has baffled doctors by making an unexpected recovery –

By Mark Reynolds

ability to speak. We were never given



> THE HEADLINE READ, MAN SAVES CHILD FROM BURNING HOUSE, AND I JUST HAVE TO ASK: WHY DID THAT KID WANT TO BURN DOWN THE HOUSE?
> (JAROD KINTZ)

GROUPING AMBIGUITY & ITS VARIOUS FALLACIES

The next kind of ambiguity that gets arguments into trouble is *grouping ambiguity*. Recall that

> *Claim x contains a* ***grouping ambiguity*** *iff x contains at least one grouping term that can be used either to refer to the group as a collection or to its individual members.*

What, I hear you ask, is a grouping term? Pronouns often are. Names often are. It's probably easier to *show* you than to tell you.

Consider the following statements:

- *McDonald's employees get paid more money than professional athletes.*
- *Lawn mowers create more pollution than dirt bikes do.*
- *This is the biggest tax increase in American history!*

Each of these statements includes grouping terms—and in fact—each contains grouping ambiguities. The ambiguity (as with any ambiguity) entails that the statement can be understood in two drastically different ways. For example, the first statement could be read to mean *either*

1. A McDonald's employee gets paid more money than a professional athlete does, or
2. All the McDonald's employees as a group make more money than all the professional athletes as a group make.

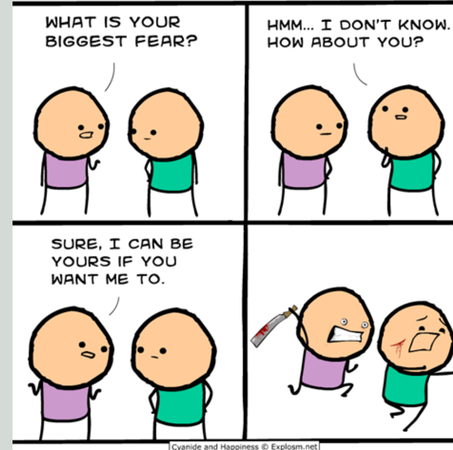
Notice how these are *very* different claims. If we take the statement as meaning 1, it is obviously false. There is no way a person on minimum wage makes more than a person on a million-dollar contract! But if we take it as meaning 2, we might find the statement true (though would require some serious research!). It might be the case that the *huge* group of McDonald's employees worldwide takes in, as a whole, more money than the not-so-huge group of professional athletes (though somehow, I doubt it).

The point is, if you take the statement as grouped one way, it might come out true, and as grouped the other, it might come out false. The *grouping* of the statement determines the meaning, and the meaning determines the truth (since truth has to do with how well the claim maps onto reality).

Look at the other two statements. One could understand the second to mean either that

PHONETIC AMBIGUITY & THE *ACCENT* FALLACY

Sometimes the fallacy happens through wrongly *saying* what was said. The error is in an ambiguous *emphasis*.



The fallacy of ***accent*** occurs when an argument contains a premise that relies on one particular emphasis of certain words, but the conclusion relies on a different emphasis that gives those same words a different meaning. This is most likely to happen by misreading, since it relies on getting the wrong meaning from a wrong utterance. Consider the following:

> *Why are you asking me about Mary's message? I told you I resent it.*

You might read *resent* to mean 'send again' or you might read it to mean *resent* to mean 'feel bitter about,' depending on how you read the syllables to be accented. If you understand it the wrong way and draw a mistaken conclusion from this wrong understanding, then you've fallen into the fallacy of accent. You might also make this mistake by emphasizing the wrong word.

Of course, this isn't too common in English when it comes to taking a simple word out of context (except maybe in jest), but it is *quite common* when it comes to taking a whole phrase or comment out of context (unduly emphasizing the phrase or comment), like when we quote others.

continued…

1. Lawn mowers each individually create more pollution than dirt bikes each individually create, or
2. The whole group of lawn mowers creates more pollution than the whole group of dirt bikes creates.

Well, that's more obvious. Dirt bikes are individually horrible polluters—way worse than individual lawn mowers. But there are a lot more lawn mowers out there, and as a group, they might wind up topping the list for pollution.

The statement "This is the biggest tax increase in American history!" can likewise be understood two ways:

1. This tax increase will bring in more money for the government than any tax increase ever has before, or
2. This tax increase will take more money from each individual taxpayer than any tax increase ever has before.

Notice how tricky *this* one is! And in fact, this is a very common practice among politicians (and leads us into the fallacy.

The Grouping Fallacy

If the US has a larger population than ever before, then a tax increase of a fraction of a penny, applied universally to all citizens, could bring in more money than any tax increase ever had before. No one person would feel much cost—might not even notice it. But an opponent to the increase will say, truthfully, that "this is the biggest tax increase in American history!" **with the expectation that people will understand the statement wrongly**.

This is wholesale language manipulation. It is a very popular tool among advertisers, politicians, and con artists who wish 1) to *say* true things that 2) will be understood incorrectly. It's deception. And if you draw a conclusion from the false grouping, you've committed a ***grouping fallacy***.

PHONETIC AMBIGUITY & THE *ACCENT* FALLACY.

continued.

This fallacy is possibly the most common one in political or religious discourse, where people quote scriptures out of context to endorse their worldview or opposing politicians out of context to misrepresent them.

We can thus define this special kind of category mistake:

> *Argument x contains a **fallacy of accent** iff x draws a conclusion from a word or phrase that is incorrectly emphasized such that the meaning is not at all consistent with its original context.*

Consider these for Task 10. For each listed item below,

1) determine and state what kind of ambiguity it contains (grouping, semantic, or syntactic) and
2) state both of the meanings contained in the statement. Then
3) determine whether it also contains a fallacy (is it an argument?). If so, state which kind of fallacy is present.

- For sale: ten puppies from an Australian terrier and a Boston terrier.
- Why would a woman need to worry? The sign says it's a man-eating shark.
- Visiting relatives can be boring.
- Joe experienced severe shortness of breath and chest pain at home while having sex, which became more unpleasant in the emergency room.
- College professors make millions of dollars a year.
- She said that Toyota manufactures dozens of cars. That seemed odd to me, since I had seen hundreds just in the local dealership's lot.
- The Seahawks tackle threw a block at the Broncos linebacker.
- You look more like your brother than your father.
- There's somebody in the bed next to me.

The Category Mistake

Closely related to the grouping ambiguity is the ***category mistake***. The most basic category mistake is made *when one puts something x into a category into which x doesn't belong*. A lot of moral and legal arguments find themselves making this mistake. For example, somebody S might object to practice x, claiming

X is immoral because x is icky.

We might understand S as meaning to imply that all things that are icky are immoral. But ickiness isn't a moral or ethical category, but an emotional one. (And we know from our rules of discourse that emotions aren't a good indicator of truth!) Thus, if S concludes that x is immoral, S is mistakenly putting x in the wrong category. How so? Well, ickiness is a subjective state (some things you might find icky others might find quite appealing), and not only is ethics *not* subjective, but ethical standards must be universally applicable.* (By the way, this particular approach to morality by means of emotional category mistake is called the 'philosophy of disgust.' The whole thing hangs on putting people and pathogens in the same category by classifying some of the former as instances of the latter.)

continued…

* More on objective and subjective claims in the next chapter.

PART-TO-WHOLE FALLACIES

There are two closely-related mistakes in reasoning that arise from a sort of grouping ambiguity, called the *part-to-whole* fallacies (because they both mistake the relationship between the *parts* and the *whole* of a thing or group). Specifically, they both assume that ***the whole x is nothing other than the sum of the parts of x***.

You can understand these two as different sides of the same coin. The first fallacy is called *composition,* the second *division*.

COMPOSITION

Both of the part-to-whole fallacies follow a helpfully clear pattern. The first, called ***composition***, draws a conclusion about a whole thing or group, based on what is known about its parts. It infers that because *all the parts* are a certain way, the *composed whole* must also be that way. That is:

1. Every member of x has property P.

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2. Therefore x has P.

But there's no good reason to assume that x has P simply because its members do: wholes are sometimes *more* than the composition of their parts.

We can thus define the fallacy:

Argument x contains a ***composition fallacy*** *iff x concludes that the whole individual or group A has a certain property P because every part or member of A has P.*

Look at these examples:

(CU) Under the ruling called *Citizens United* (2010), the US Supreme Court extended the legal fiction* of *corporate personhood* to extend certain political rights to corporations that had until then only been granted to individual citizens.

(DT) In 2002, the United States created an Olympic basketball team of stand-out champion players, calling it (in honor of the winning 1998 Olympic team), the *Dream Team*. The team was expected to win gold.

Let's put each of these into standard form to see where the argument is, and thus where the fallacy is.

CU (for *Citizens United*)

1. Every member of a corporation is a person (and as such has certain Constitutional rights).

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2. So a corporation is a person (and has certain Constitutional rights).

* This is a technical term referring to a point of fact that is assumed or created by the Courts, which is then used to apply a law or rule not necessarily intended or designed to be used that way.

DT (for *Dream Team*)

1. Every member of the Dream Team is a winner.
2. The Dream Team will be a winner.

Notice how putting an argument into standard form makes it *really* easy to analyze!

We can then see how CU is making huge assumptions about what counts as a person. But aren't there other things essential to personhood that corporations don't share? Can you think of anything that seems pretty important for being a person that a corporation doesn't have?*

Now consider DT. It's a little more cut and dried, considering the fact that the 2002 US Olympic Basketball Team was demolished before it even hit the medals round. It lost horribly to Puerto Rico. How could this happen? A good team isn't just an aggregate of good players. There needs to be something *more*—teamwork, *esprit de corps*, whatever you want to call it—that makes a team great.

And this shows us the core of the fallacy of composition: sometimes the parts are more complex than the whole in the way being considered (as in CU), and sometimes the whole is more complex than the parts in the way being considered (as in DT). Properties shared by all the parts don't necessarily wind up being properties of the whole.

To nail this down as firmly as possible consider this: suppose you like all these things: apples, Cheetos, Dr. Pepper, mint ice cream, chocolate cake, sriracha sauce, blue raspberry Jell-O, fried chicken, scrambled eggs, pepperoni pizza, blueberry yogurt, pork fried rice, fresh sugar peas, and Reese's Peanut Butter cups. So you must like a casserole made up of all of them! (Ew.)

All these things share the property of *being liked by you*, but that does not at all guarantee that the whole made up of them will have that property.

DIVISION

The fallacy of ***division*** is, when it comes down to it, composition in reverse. Instead of concluding what is true of all the parts must be true of the whole, *division assumes what is true of the whole must be true of all the parts*:

1. The whole of x has property P.
2. So each member of x has P.

The Category Mistake, *continued.*

Another common category mistake happens in political or legal contexts. For example, one might argue on the same lines as above (icky = illegal), with the same problems as above. Or somebody might argue that

> *X should be legal because x is popular.*

This is a dangerous mistake, because it *seems* true. But the law is not a popularity contest, because people's opinions change quickly and can be easily manipulated. In some places, killing Muslims, raping women, or lynching gays sounds like a heckuva lot of fun. It would be a popular sport. But this isn't a good reason for making any of these activities legal.

A careful reasoner will realize that we cannot so quickly infer something belongs in one category simply because it is in another that in some places might overlap. So in general, we can say that

> *Argument or claim x contains a* ***category mistake*** *when x unjustifiably refers to something that belongs in one category as if it belongs in another category.*

* This is an *enormous* philosophical question that is dancing around classrooms and legal chambers all over the US. A lot of discussion is going around to abolish that legal fiction on the grounds that personhood is something no corporate entity can claim.

So now it's time for a review in the shape of Task 11. Below is a list of ambiguities of all kinds. For each one, do *all* of the following.

(a) state *which kind* of ambiguity;
(b) state *both* of the meanings possible for the ambiguous word/phrase;
(c) state whether there is a fallacy; and if so,
(d) put the argument into standard form; and
(e) state what that fallacy is.

Note that the *pictures* below are also to be identified.

- *Sodium and chloride are poisonous. So the compound made up of them (sodium chloride) is poisonous.*
- *This chicken is ready to eat.*
- *Noisy children are a real headache and aspirin makes headaches go away, so a dose of aspirin will make the brats go away!*
- *This marble is blue, so the atoms that make it up are blue.*
- *People who protest often get arrested.*
- *To cross the border you will need a birth certificate or driver's license and other photo ID.*

Consider these examples:

1. Wells Fargo is a dishonest company.
2. So every employee of Wells Fargo is dishonest.

Or

1. San Francisco has the most expensive apartment rents in the United States.
2. So my apartment here in San Francisco is more expensive than any apartment in Manhattan.

Notice how *both* of these arguments presuppose that what is true of the whole must be true of every part: in the former case, every single employee, in the latter, every single apartment, but most specifically, *my* apartment.

It might seem less clear in the apartment argument, so let's follow the reasoning. First, the person thinks that if SF has the most expensive rents in the US, it must follow that *every single apartment in SF* is more expensive than any apartment that isn't in SF. So this single apartment in SF (mine) must be more expensive than any other apartment, including one in Manhattan. Of course, the problem is that Manhattan (a borough in New York City) is one of the most expensive places in the world for property, so although San Francisco the *whole city* has the most expensive rents in the US, it is more likely that Manhattan—the *neighborhood*—will be more expensive, even if all of NYC isn't, when averaged, more expensive.

Of course, the root problem is the same here as with composition. If the parts are more (or less) than the whole, we can't draw conclusions about them by division any more than we can draw conclusions about the whole from them by composition.

Here's the definition:

> *Argument x contains a **division fallacy** iff x concludes that every part or member of individual or group A has a certain property P because the whole individual or group A has P.*

Students Cook & Serve Grandparents

On Thursday, September 9, Gorman School hosted the first annual Grandparent's Day.

GOOD MORNING!
I DON'T WANT TO DEFINE ANYTHING.
I'M SORRY- CAN'T A FATHER WISH HIS OWN SON A GOOD MORNING?
I DON'T WANT TO DEFINE ANYTHING.
PERHAPS I DON'T DESERVE A "GOOD MORNING" EVEN FROM MY OWN SON..
Sniff
...
GOOD MORNING.
BUT WHAT IS "GOOD"?
I HATE YOU.
Edan Hanegbi