To pass the course, you must
1. read the assigned pages thoroughly.
2. do the homework carefully and check the answers
3. not miss classes or exams.
4. consult the class website once a week.

This manual is the class text. It provides all class materials needed for Dr. Marti’s CHS 202: Chicano Studies 202: Race, Racism, and Critical Thinking. You are expected to read it thoroughly and do the assigned exercises. As a text, its main advantage is economy — monetary and intellectual: Not only does it replace expensive textbooks or work manuals, but it also simplifies and condenses an enormous mass of information, rules, and procedures you would ordinarily have to learn in a critical thinking course – a reduction of about 73% of time and effort over similar critical thinking course materials.

1. G. E Fulfillment: The course, Chicano Studies 202 satisfies the "Critical Reasoning" (A-2) section of the General Education Program, which recognizes critical reasoning or critical thinking as a fundamental competence. Courses in this section of General Education take reasoning itself as their focus. Their goals are to provide students with criteria and methods for distinguishing good from bad reasoning, and to help students develop basic thinking skills that they can apply both within a broad range of academic disciplines and outside the academic environment. Students are expected to acquire skills in recognizing the logical structure of statements and arguments; to distinguish rational from non-rational means of persuasion; to apply the principles of sound reasoning in the construction and evaluation of arguments; and to develop an appreciation of the value of critical thinking skills in the pursuit of knowledge. These skills will be applied to the Chicano/Latino racial experience in contemporary America.

2. Course Objectives: CHS 202 aims to give students the necessary tools to reflect critically on race, gender, and other social issues affecting our society today. The objective is to teach how to recognize, analyze, and evaluate arguments from everyday life, politics, the sciences and the humanities that presuppose or imply racism, class, or gender biases. Instruction will consist of exercises to improve the student's ability to (1) recognize the presuppositions and consequences of discourse in ordinary language (informal logic); (2) identify flawed and subtly biased patterns of reasoning (fallacies); (3) recognize and apply those rules that either prevent drawing false conclusions from true premises (deductive logic); and to (4) determine the extent of inferences from limited data (inductive logic). Emphasis will be placed on the Chicana/o-Latina/o experience in contemporary American society.

3. Quizzes and Exams: CS 202 is divided into several almost self-contained units: (1) the nature of language, arguments and their logical assurances, (2) illogical arguments (fallacies), (3) deductive arguments, (4) analogical arguments and decision-making, (5) disagreements and disputes.
To measure how well you understand the materials in each unit, a one hour-long quiz will be given at the end of each of the first four units.

In addition, a 5-page term paper will be assigned, in which you will examine an issue relevant to the Chicano/Latino experience. Its purpose is to assess how well you can marshal critical thinking techniques learned in this course by examining, assessing and arguing persuasively for or against a controversial topic. It will be due at the end of the semester.

The final grade will be the average of all the exams and term paper minus excessive attendance. Note that the university requires that to pass the course, you need to achieve at least a C- (C minus) grade.

4. Attendance: Attendance for the full class period is required. It has been found that requiring attendance improves the overall class averages (and minimizes the overall number of failures) by about 21.9%. In a class that meets once a week, you will be allowed a maximum of two absences (the equivalent of missing two weeks). For every absence over two, ten (10) points will be subtracted from the final grade. Note that the two potential absences should be used for catastrophic events, illness, or other unavoidable situations. No need to present doctor or parent notes, etc. You will be taken at your word. However, they are not “vacation” days, and no excuses will be accepted for absences over the two allowed – so use them judiciously. “What if I am doing well on the quizzes?” The rule still applies. “But why take points off when I already know the materials?” First, knowing the material well up to now is no guarantee of future success. Second, lax attendance lulls students into complacency. Many students with spotty attendance tend to think that they are doing better than they really are and express surprise when they receive a much-lower-than-expected final grade. Third, weaker students might decide to ditch class if there is no attendance enforcement. They miss instruction, are unable to pass the exam, and consequently fail. The no-excessive-absences-allowed rule works; and it works because it has teeth.

5. Missing Quizzes: If you miss one or more exam, you will be given a second chance with a make-up to be given only during the scheduled final period. No make-up exams will be given outside of the scheduled semester final exam period.

Missing an exam is strongly discouraged. Statistics show that they tend to receive much lower grades because of insufficiently acquired or faulty skills or just plain forgetting what was earlier learned.

There are no retakes.

6. Cheating: While very rare in my CS202 classes, University policies require that a statement on cheating be posted: *Cheating in exams, attendance, or any other assignment will reap an immediate and unappealable F.* (Bear in mind that if you give a cheater a wrong answer, they can sue you for inflicting intellectual harm.)

7. Class Procedures: Ideally, classes would be run in the so-called Socratic manner – that is, conversing with and eliciting responses from students. Class size, however, makes such procedures unfeasible. Instead, the instructor will lecture: In general, classes will begin with the instructor asking if there were any problems with the materials – with the concepts, the theory, the readings, the homework, the problems assigned. The instructor will then go over the assigned homework and show the most efficient way of doing it. Once the old materials are covered, the class will proceed to new material, again, clarifying the objectives, explaining the new concepts and procedures, and giving examples to show the most effective way to solve the new set of problems. Occasionally, the class will depart from the usual format: for instance, with guest speakers, to see or hear relevant audiovisual materials, or to discuss topics of general interest.
Your optimal strategy is, prior to the class, to read the text carefully and do the assigned homework to the best of your ability. No homework will be collected. It is assumed that you will have done the work carefully and religiously. Since it is also assumed that you are taking the course to acquire some critical thinking skills, it would as pointless not to do the homework as it would be for a person to join a weight-watchers group and not go on a diet, or for one who wants to build muscle not to lift weights. In fact, doing the homework is the best way to prepare for the quizzes.

8. Bibliography: The last section of the manual is a brief annotated bibliographic essay, followed by an alphabetized list of the works cited. At most universities, the student who ends an introductory level course with a peaked interest in the field usually asks the instructor for further readings and guidance. And in advanced courses, one starts with such essay and then takes off on a direction of common interests. Thus, the annotated bibliography is to serve as a compass and a map to navigate a very broad field.

9. Class Webpage: This manual and class instructions rely heavily on materials posted in the class website. The website’s function is to inform you about what is expected, updates on exams, new assignments, clarification of some points in the lectures, etc. The address is:

   http://www.csun.edu/~vcoao07k/

The website will post additions or corrections to this manual, summaries, new questions and answers to the work done in the classroom, etc. You are required to check the website frequently (best before every class). The site will be updated during the semester: periodically before Tuesday evenings, and as the need arises.
Chapter 1

CRITICAL THINKING
The Basics

I don’t want you to think like me.
I just want you to think!
(Anonymous)

Working Definition: Critical thinking or critical reasoning is a collection of skills and strategies that allows us to recognize and evaluate the worth of claims.

A claim is a statement that aims to modify our behavior or attitudes because it is believed to be based on well-grounded evidence.

Every day we are subjected to many and often opposing demands for our money, our time, our beliefs, our bodies – demands that have increased exponentially with the advent of the internet. Some are well meaning requests, others are problematic demands, and some dangerous directives. Common sense teaches us that (1) everything we hear especially from politicians, used-car salesman, con-men, doctors, priests, psychologists, even critical reasoning teachers, might not be exactly true; (2) that any claims made on us might be unfair or false; and (3) that even if they were fair, we still might lack the time or resources to fulfill them all.

1. Defining Critical Thinking: It would nice to be able to identify which demands should be fulfilled, which postponed, and which avoided: that is, which are proper and which are scams, which can be satisfied and which cannot. The study and construction of procedures for identifying and assessing claims is called logic. Logic, however, is both a very broad and narrow study that uses universal yet very specific procedures that can be applied to ordinary and to extraordinary situations. Here we will focus on that area of logic that deals with everyday situations, called “Critical Reasoning” or “Critical Thinking” – the study of those patterns of thinking we follow when we want to solve problems, chart out procedures, even make decisions. Critical reasoning is the ability to assess these patterns. It not only sharpens our common sense but, other things being equal, helps us to avoid infelicitous consequences and to use our time more wisely.

Take a look at this editorial:

Why are most managers men? Why so few women managers? The answer is very simple. Corporations are not necessarily anti-feminists, but they are not in business to lose money either. Training managers is expensive, and you don’t want to lose your trainees. Simply, men are managers because they don’t get pregnant.

1 “Critical” should not be interpreted as giving criticisms, but as an examination and evaluation of claims, beliefs or opinions.

Many readers praised it for being a commonsensical, justifiable, and forthright business advice. However, a critical thinker, while accepting the truth of most of the reasons given, would conclude correctly that it’s a very bad argument because the reasons given for managers being men are not sufficiently supported. Why not? That’s what we are here to learn.

Studying critical reasoning gives us the skills to see through scams, false advertisements, prejudices, biases, the cheats and the liars, avoid deceptions – not all of them, but a good many. Why? Why bother? Because otherwise, we could pay heavily for our mistakes.

Critical reasoning trains us to draw the best conclusion from a set of beliefs or reasons by using clearly specified procedures and rules that have been proven to work in practice. We defined it as the ability to assess the worth of a claim. In other words, it is a collection of skills and strategies we employ in order to recognize and evaluate claims by making sure we maximize drawing the right (and minimize drawing the wrong conclusion). Though this definition needs lots of work, it is at least a starting point.

2. Thinking and Reasoning: We are thinking all the time. We imagine, visualize, sense, dream, remember, wish, and so on. That kind of thinking is innate, automatic. But there is a more specific kind of thinking: when we try to solve a problem for instance. This is called reasoning – a form of organized thinking that allows us to reach a desired goal. But don’t we all know how to reason? Don’t we know how to solve practical problems? How to plan and implement our goals, etc.? Yes, we do; otherwise, we would not be physically here – we would not have survived the trip. Early on, we have been taught how to reason. However, from our past mistakes we know that this form of thinking could use some improvement – maybe a lot.

Ordinary language has conflated reasoning with the more general concept, thinking. Critical reasoning is not an attempt to teach thinking. Rather it is an attempt to improve the applications of our thinking, that is, of reasoning. This is done by managing our ideas and learning how to resemble them in order to draw inferences, to reason. Minimally, we make two requirements of reasoning: consistency and coherence. We are supposed to be consistent: that is to hold to the same principles, hold to the same course, and not contradict ourselves. We are also supposed to be coherent: that is, to present our ideas in an organized manner, to communicate better. Anyone who violates these requirements we would think stupid, crazy or duplicitous. These are not easy tasks, as anyone who is writing a term paper, or showing how to do something, probably knows.

To make a banana daiquiri, you pour it into the glass, put the banana in the blender with the lots of ice, add salt to the rim of the glass, add lots of tequila, blend it thoroughly and peel the banana.

Or anyone who gets into an argument with their loved one:

Dad: I will have a banana daiquiri.

Mom: But you said you didn’t like banana daiquiris.

Dad: So, I changed my mind.

3. Making sense of things: As with all things human, critical reasoning not easy. Often the strangest gibberish makes sense; the most obvious expressions turn out not to be so; the most contradictory isn’t; the most nonsensical has a sense; learn to visualize better, sharpen our observations, improve our imagination, allay some fears, use mnemonic devices to remember more efficiently, etc.
and the incoherent sells. Part of understanding something, and of critical reasoning, is to sort out the order and sanity of things – to make things coherent and consistent.

Take, for instance, the following nonsensical but apparently persuasive Tojo tire ad:

*Affordability. See the man. 45/50/55 series.*
*Whoa! Catch up! Plus sizing. Definitely works!* *Makes stellar affordable where/tire packages. High-impact messages. Low aspect ratio.* *Hello?! We are talking most excellent math here.* *Hey, where's it written that only Z-rated rules? They're your wheels.*
*FZ4 is the deal. Stop dreaming. Reality can be good.*

Or the following example from a psychology text:

**The Hmuan Mnids’ Phaomneal Pweor**

I cnduolt blveiee taht I cluod aualclty uesdnatnrd waht I was rdngieg! Aocdrnig to a rscheearch at Cmabrigde Umervtisy, it deosn't mttaer in waht orerd the ltteers in a wrod are, the olny iprmoatnt tihng is taht the frist and lsat ltteer be in the rght pclae. The rese can be a taotl mses and you can stll raed it wouthit porbelm. Thhis is bcsuse the huamn mnid deos not raed ervey ltteer by istlef, but the wrod as a wlohe. Amzanig huh?

Or make sense of the contradictory passage from "Lancelot and Elaine." (Alfred Lord Tennyson’s *Idylls of the Kings.*)

His honour rooted in dishonour stood,
And faith unfaithful kept him falsely true.

Or the clever nonsensical poem by Lewis Carrol, "The Jabberwocky," from *Through the Looking-Glass and What Alice Found There:*

"Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

"Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!

Beware the Jubbjub bird, and shun
The frumious Bandersnatch!"

He took his vorpal sword in hand:
Long time the manxome foe he sought --
So rested he by the Tumtum tree,
And stood awhile in thought.

And, as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!

One, two! One, two! And through and through
The vorpal blade went snicker-snack!
He left it dead, and with its head
He went galumphing back.

"And, has thou slain the Jabberwock?
Come to my arms, my beamish boy!
O frabjous day! Callooh! Callay!"
He chortled in his joy.

"Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

Or understand decisions, as in the poem by Robert Frost, *The Road Not Taken:*

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I--
I took the one less traveled by,
And that has made all the difference.
Making sense, understanding things, etc., are part of our daily adventure into the world and into ourselves. They are meant to help us live, to recognize what to do, what to avoid, what is true, what false, what is safe, what to avoid, what is real, so we can continue living; and what is confused, what is false, what is a scam, what are deceptions, so as to avoid costly and sometimes painful experiences.

4. Gullibility, fake news, and scams: The main purpose of a course on critical reasoning is to improve our ability to reason. Though we all have that ability, unfortunately we often make all kinds of mistakes. We can fail to exercise them or err in their applications. Habits, mental inertia, our environment also make us creatures of rote, and cause mistakes. Others often take advantage of our credulity, inattention or fatigue. Fake news, conspiracy theories, pseudo-science are case and point. Finally, bad judgments are made about people based on what we would consider unfair or biased grounds; that is, racist, gender-biased, bigoted, sexist, or prejudiced arguments.

Take fake news. There are fake news – items that try to appear to be news, to report facts, truth. But everything can’t be fake news: Unless there are legitimate news, it makes no sense to call all news fake. And legitimate news are the result of a consensus, an agreement to trust the sources that have proven to be reliable in the past. Calling something fake news is a claim that should be assessed. Who determines what is fake news is. What is the evidence? And how do we know that it’s fake news. The same thing can be said of conspiracy theories and pseudo-science. Are they justified claims, or are they scams? These claims are so rampant that they tax our credibility and damage human communication. Politics and the internet are rife with them, and we can find sites correcting or debunking them, such as What didn’t happen this week, or Snopes.

Here, scams are taken in the broadest possible sense – someone trying to pull the wool over our eyes, deceiving us, lying to us. Broadening of the concept allows for the inclusion of situations that can be described as racist or sexist. In fact, minorities, the poor, the downtrodden are subject to a disproportionate amount of scamming. Part of the reason is that they fear the authorities, part is their lack of agency, and part is the inability to make effective claims on their own behalf. This last can be remedied by means of a good education – one that teaches how to think critically. And agency requires that we be able to argue on our own behalf. Arguing on one’s own behalf is most successful when the claims put forth are compelling – the reasons backing them are strong, and the logic is airtight.

5. Skepticism: Avoiding scams, fake news, conspiracy theories, etc., require a dose of skepticism. Skepticism is the habit of methodologically casting doubt on beliefs and claims people make. Skeptics always ask themselves: “Does it make sense?” “Is this right?” “Why? And so on. In practice, skepticism is a temporary suspension of action to allow us to examine the claim being made: whether the action should follow from the reasons given, or whether those reasons are not good enough. How thorough should this cessation of actions be will depend on the circumstances. Learning to be skeptical – to carry out this temporary suspension of action when evaluating a claim – requires instruction in the use of common sense and lots of practice.

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4 Agency is the ability to act freely and make decisions with a minimum of external compulsion or control

5 Fairly recently, someone goaded us into using a wider form of skepticism: “Just remember, what you are seeing and what you are hearing is not what’s happening.”


It seems to be a good advice from a critical thinker’s point of view, for it asks us to evaluate the evidence that goes
6. **Personal Experience:** One of the essential features of critical thinking is the requirement that we put the problem in perspective; that is, to examine claims in terms of our own experiences – in our case as Latinos living in contemporary America – without excluding others suffering biased treatment.

For us, critical reasoning is a powerful tool. True, it helps us be less prone to falling for scams, biases, and being racists. But on the positive side, by proper use of its rules and strategies, we should be able to think, act, and communicate better and more effectively. It will also allow us to challenge prejudiced arguments without falling into acrimony or frustration. In fact, it also helps us recognize some unfair arguments we are unaware of that or could even be part of our belief system.

7. **Homework Set #1:** This homework collects several claims meant to fool or confuse the victim. Someone is trying to get you do something that would set you back. Can you see the flaws? How did you see them? What methods did you use? How can you be sure you have arrived at the right solution? Our goal here is to learn to take people’s claim with a grain of salt the claims people make. Be leery. Be skeptical.
HOMEWORK #1.1
Food for thought: Are the following claims acceptable? Or is there something wrong with them? How do we decide? How do we show them wrong (or right)?

1. Give me your small dime and I will give you my big nickel!

2. If you invest your money with me, I will double it up in no time.

3. "Now, you've got the modern welfare state that tells black folks and Hispanic folks and poor white folks: 'Don't worry. We'll take care of you.' What is the difference? You've substituted one plantation for another." Jason Lewis, April 2012

4. If you take a cookie and break it in two, you would have two cookies!

5. This won't hurt a bit!

6. She’s playing the woman card up, that’s all she has. Honestly, outside of the woman card, she’s got nothing going [for her], believe me.

7.

8. If you want to make lots of money, get an education

9. If Hillary Clinton can’t satisfy her husband what makes her think she can satisfy America?” (Twitter, April 16, 2015)

10. What does Trump have to hide?

11. This car is in perfect condition. It was owned by a little old lady that used it to drive to church on Sundays.

12. You should buy Prudential Life Insurance because you do not know when bad things can happen.

13. Is it true that in Italy, a man can go to jail for marrying his widow's sister?

14. Jaguar XKE. Why pay less? If you have the money, flaunt it baby!

15. **Free**

   Oil and Filter Change
   Oil filter and up to 5 quarts of oil
   $19.85
   Expires 9/12/2017

16. Affirmative action should be abolished because it gives an unfair advantage to people who would not otherwise have earned it.

17. One of the reasons for the decline in SAT scores is that more and more under-prepared minorities are taking the exams, thus dragging down the general averages.

18. **$$Wanted$$**: 10 people who want to lose weight. Earn serious money in your spare time working from your home. Call XXX-XXXX

Minorities are poor because they do not know how to work hard and improve their status.

19. You are Cuban? Hey, you must really know how to dance!

20. Immigrants are predisposed to violence and crime.
Working Definition: Language is a set of sounds or physical marks interpreted as words and sentences we use to inform, express, command or evaluate others, based on a tacit acceptance of meanings and references, and governed by the rules of grammar, semantics, and pragmatics.

To understand how critical thinking works, we must first look at language, what it is and how we use it. Language is a symbolic representation of our thinking. We use it to both frame our thoughts and communicate them to others. That communication takes two forms: sounds and gestures; and visual marks or tactile bumps – spoken and written language.\(^1\) Some anthropological evidence traces the first at least to the birth of the *homo sapiens* species,\(^2\) and historical evidence for the second can be found in Mesopotamian cuneiform tables around six thousand years ago.

Though deeply connected, spoken and written languages function in different ways: Spoken language usually involves others and depends on the environment and the situation. Its flexibility, power, and subtlety are due not just to using specifically recognized sounds (words) but by varying intonations and body gestures. Written language, though less spontaneous and subtle, is more precise because it is fixed, making it easier to examine and reexamine its grammar, logic, or semantics – we can read a sentence several times until we feel we understand it. Yet, the written word is a secondary or derivative symbolic system of those oral expressions – derivative because we can use language effectively without knowing how to read or write.

The use of language is perhaps the most pervasive of human activities. We use it to communicate with others – to explain, predict, entertain, command, express our emotions, even to “talk” to ourselves.\(^3\) It has proven to be a very effective tool to frame, express, and direct thinking: Every idea, whim, emotion, can be presented in language.\(^4\) In fact, we have trained our thinking to fit the molds of language – that is, language has changed our thinking from fluid to structured: It organizes thoughts sequentially, and to follow the rules of grammar and logic. Such structuring allows us to express them; to interact with the environment; to communicate; to keep records; even to understand ourselves. It could be argued that, language is the social consequence of a need to talk to others – an interaction that becomes

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\(^1\) We generally include sign languages, such as ASL in the category of spoken languages, and Braille as written language. They have grammar and even intonations.

\(^2\) Perhaps even a million years earlier: See Frank Livingstone, “Did the australopithecines sing?” *Current Anthropology* 14 (Feb. – April 1973).


\(^4\) This leads to the mystic’s paradox: if a feeling or emotion cannot be expressed in language, we cannot talk about it – that is neither assert nor deny it’s existence. See Russell, *Mysticism and Logic*, 1918.
more efficient and effective when we need to exchange complex thoughts.

Though intimately related, thinking should not be equated with language – there is more to thinking than its linguistic expression.⁵ We can have thoughts without necessarily having language, such as the case of infants and some animals. However, if we want to organize our thoughts, understand ourselves or others, we frame those thoughts in language. Thus, it reasonable to infer that if we want to improve our ability to think critically, then we should start with language as both the shaper and conveyer of thought. That is, to discover the principles of critical reasoning, we need to examine examples that can be repeated easily, conveniently and economically – thus the stress on the printed word.

A. THE FUNCTIONS OF LANGUAGE:
The basic building blocks of language are words and sentences. In our environment-culture, words are linguistic entities that sometimes act as labels for things (name or describe elements of the world), for occurrences (actions or events), or to tell us how they occur, etc. We can recognize words by their grammatical function – as nouns, adjectives, verbs, adverbs, etc. And some words are about words, such as “noun,” “verb,” etc. indicating their place or intended use in a sentence. Words have meanings (synonymous relations to other words), and references (who or what they talk about). That is, the ideas they try to convey and what they point to.

But words alone have limited use. It’s when this group into larger structures – sentences and even paragraphs – that they become useful. Our first step is to concentrate on sentences and examine four kinds of sentences, each carrying out a different function in linguistic communication: (1) to express emotion; (2) to instruct or command; (3) to evaluate or assess; (4) to state facts. There are other uses of sentences, such as judging, questioning, promising, declaring, persuading, etc. but they will be dealt with elsewhere.

1. Emotive sentences express our states of mind and emotions. In writing, they are often recognized by the use of exclamation points (!), ellipsis (…) choice of words (e.g. “sad,” “glad,” curse words, etc. Orally, these expressions can be modified by the speaker’s intonation and gestures. Understanding the context⁶ in which they are used, helps. For instance:

   Glad to see you!
   ¡Caramba!
   My heart is breaking.

2. Imperative sentences are used to give instructions or commands. In writing, the sentence are in the imperative mood and exclamation points. Orally, the tone of the voice, use of the imperative are telltale signs, So is understanding the context. For instance:

   Stand up!
   Take this book back to the library!
   Today we will do the homework in class.

3. Assessments or evaluations are sentences that can imply a preference or express a positive or negative judgment about things, or actions. They have the same grammatical structure of factual degrees. Proof? Try to successfully bargain in their local market, and that will show you who the village idiot is. Wonder why when you leave the market, they wave at you and with a big grin ask you to come back soon?

⁵ Linguistic proficiency should not be equated with intelligence either. Some very intelligent people may have a limited vocabulary and some dumb ones can be verbal chatterboxes. In every village I have visited, be it Africa, Asia, or our Americas, there is always someone who is smarter than me, even with my academic

⁶ “Context” usually means the situation (the where, when, who, why) in which the sentence was used.
sentences except that one can always add an exclamation point – indicating that the sentence expresses a value or preference.

Goodness is its own reward.
A thing of beauty is a joy forever!
I like it better.
Murder is bad.

An assessment or evaluation implies that the evaluator has ranked options in accordance with some criteria, and such ranking indicates a preference. More specifically, assigning a value implies that: (1) there are alternatives; (2) that they can be ranked according to some standard, norm, or principle; (3) that the higher ranked alternatives will be acted upon if the circumstances arise. For instance, “I like it better” means that there are at least two things pointed by the “it,” one of higher ranking than the other, and “I” would normally act on the higher ranked “it.”

4. Indicative sentences are sentences that make a statement – a description of what and how the world is at a specific time and place. If true they are called facts or factual sentences; if false, they are called fictions or falsehoods. Their value is determined by external conditions: how accurately they portray the world. They are often not obvious because they share the same grammatical form with many other indicative and emotive sentences. The best criterion would be to determine what possible experiences would make the sentences true or false.

We are on page nine.
Today is Friday.
The book is red.

Also expressed in the indicative mood are sentences that though they resemble factual sentences, are neither true nor false – fictional sentences, sentences that tell stories as if they were real but cannot withstand the test of truth.

Once upon a time there was…

Two drunks walk into a bar…
Nero played the violin while Rome burned.

False indicative sentences that pass as truths with the intent to deceive are called lies. Fake news falls in this category. Lacking such intent, they are called errors.

B. MULTIFUNCTIONS AND CONFUSIONS

Sentences often play more than one role – for instance, expressing emotion, giving commands, stating facts. Often the same sentence can be used to make an evaluation, or give a command:

It’s wrong to kill!
Stop when you are ahead.

To give a fact and a command:

The cat needs feeding.
I want you here on time.

To state a fact and an evaluation

Carrots are good for you.
Heroin will kill you.

And sometimes it can be used in all four senses. Take yelling “Fire!” in a burning building. It expresses an emotion of fear or dread; it states a truth: that the building is on fire; it evaluates the situation as very bad; and it implicitly orders people to get out of the building, all at the same time. Because of the flexible nature of language, it can be difficult to determine the use or intention of these sentences. There are no hard and fast rules here. It takes practice to detect the different uses and nuances of sentences.

Conversely, some functions are misapplied to certain linguistic uses, with serious consequences, as is the case of confusing facts and opinions. Factual sentences are objective reports – descriptions – about what happens in the world. If they report it correctly, they are true, else false.
Today is Friday.
Salt is sweet.
Jason Lewis asked why we can’t call women a slut.

(https://www.huffpost.com/entry/republican-congress-man-women-sluts-cnn-jason-lewis-sandra-fluke_n_5b4fa6fee4b0b15aba8b3a7c)

Opinions are usually subjective assessments or value judgments about the world, according to some criterion or other. They are neither true nor false; rather they are more or less acceptable. For instance, “The fires in California are caused by the heatwave,” is more acceptable than “Aliens from outer space caused the fires.” They form part of our belief systems, regardless of evidence. Still, social pressures force us to adopt those opinions that are restrained by experience.

I think that today is Friday.
Salty foods are yummy.
Lewis is a misogynist.

The best strategy for identifying the use of these sentences is to look at the larger context: for the printed word, a paragraph, a chapter, even a whole book; for oral communication, the time and place, the tone of voice, etc. In this manual, even when the examples or problems being discussed in later chapters seem crystal clear, your instructor will endeavor to supply the context. That strategy tends to add clarity and diminish complacency. And there is always the test of truth.

C. TRUTH
The ability to impart truths is one of the most important uses of language. We rely on it to survive. Without the assumption that what we are hearing is true, communication would be severely limited to grunts and yells. By telling truths, language can describe, explain or predict the world, features necessary for survival. But what is truth?

There are several philosophic theories about the nature of truth: a sentence is true if false if it gives us a correct picture of the world (the correspondence theory), if it hangs together with other such pictures (the coherence theory) or if such picture works for our purposes (the pragmatic theory). Here we will simply consider a sentence true if it can be verified by interpersonal experiences. It makes an assertion that communicates a picture of the world from one individual to another. It presupposes and allows for interactions between peoples with the unintended consequences of creating a community of linguistic users, building webs of beliefs and collective memories, and understanding and controlling the world. It even allows for the discovery and conceptualization not only of the external world, but of the self.

Communication among people is possible because we assume others are telling us the truth – until otherwise indicated. If not, if there is no trust, there would be no interaction: If you assume currencies to be bad or unstable (Gresham’s Law), no one would take it, and there would be a limited economic exchange. Trust in truth is fundamental to language. And therein lies the danger of seeing everything as fake news, alternate truths, or conspiracy theories.

D. CHANGING THE WORLD:
In a way, language gives us a picture of the world we live in and deal daily. And we know that this

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7 Here we are examining truth with a lowercase “t”, truths used simply to present facts. Truth with a capital “T” deals with Ultimates in the universe and require a considerable philosophical examination beyond the scope of Critical Reasoning.

8 Curiously enough, this is a circular argument. For fallacies, see Chapter 5.

9 Do different languages give us a different picture of the world? Or are they different worlds? Are there alternate facts? Or is this a matter of interpretation – of hermeneutics?
world can be nurturing or threatening, fostering or deadly, made by nature or by human hands. The world of our making is both relatively safe and rife with "isms" we feel are wrong on many levels and stand in need of change. Racism, sexism, homophobia, misogyny, etc., not only abound, but also hurt the innocent, and are thus morally wrong. To deal with these ills, we need to understand the world. And that is done through language. Though recognition and understanding of such evils is important, the point is not just to understand the world, but to change it.¹⁰

Language is essential for change. Changing the world is a collective matter. While a single person can change it, such change usually is limited and local. Bigger changes require the cooperation of several individuals. That cooperation is usually established through language: by convincing others that your course of action is better, more efficient, more moral, etc. Such persuasion can be achieved by rhetorical devices or by critical reasoning – by emotional appeals or by giving good reasons. Though both combined are a powerful instrument, in real life we find emotions pitted against good reasons. When that happens, any attempt of change is tainted. And it is precisely critical reasoning what would help us keep a rein on persuasion, cut through verbiage, and point out mistaken reasoning or emotional abuses. Only then can change be positive.

Granted that “positive” is a value term pointing to a person’s preferences. Such preferences are often the sources of the biases we are trying to change or eliminate. But being totally unbiased by our preferences – being amoral, for instance – is an impossibility. Every choice we make pre-supposes a preference, and if there is no preference, there is no choice. The same can be said of moral values. We would be paralyzed. We must be subjective about the world. Being “objective” is a nice critical reasoning goal, but it has its limits.¹² And they are not mutually exclusive: And there are procedures for inject purposes on objectivity, in science, ethics, and ordinary life

E. CRITICAL READING:
Changing the world effectively requires the use of critical faculties in reading, writing and analyzing. To reason critically, we must first know how to read critically.¹³

How do we read critically? In general, we must examine what we are reading, question it, look for assumptions, push it to its logical conclusions, look for alternatives, and try to discover the authors’ meaning or intent: What are they saying? Are the authors describing something? Are they narrating events? Are they explaining something? Questioning or promising? Giving instructions? Evaluating? Or are they expressing emotions? What is assumed? What are the consequences? What are the alternatives? And so on. This is not an exhaustive list of possible questions, but to read critically we must ask some of them – we must become an active questioner and a skeptic rather than a passive reader.

There are no intrinsic difficulties with reading a text critically. It is a skill – and learning a skill involves, again, practice. What makes the task difficult is the enormous variety of types of writing to upon which we can apply the tools of critical reading, for instance, poetry, fiction, criticism, news reporting, scientific writing, stream-of-consciousness, and so on. Here, we are going to limit

¹⁰ Karl Marx, Eleven Theses on Feuerbach, 1845. Yet, to change the world effectively, one must first understand it.

¹¹ Note that “good reasons” is a value judgment. What we have here are conflicting sets of values.


¹³ For a good introduction to reading critically, see Mortimer J. Adler, How to Read a Book. See also Boylan, The Process of Argument. p. ix.
ourselves mainly to expository writing. Once familiar with the procedures, these skills can be applied to other reading situations.

There are several advantages to knowing how to read critically. For one thing, it is a good starting point to thinking critically. For another, it allows you to better understand what the author is trying to say and recognize not just the points the author is making, but why, how, and whether such points can resist a sustained skeptical challenge.

**F. CRITICAL ANALYSIS:**

Reading critically requires us to be able to analyze what we are reading. But what is a critical analysis? What is an analysis? An analysis is the breaking down of a complex entity into component parts to find out what it’s made of and how it’s used: its structure and its function. There are several types of analysis, depending on the subject in question and one’s purpose. Chemical analysis will tell us the components of a substance. A fiscal analysis will determine the assets and liabilities of a company. Psychoanalysis breaks down the psyche to find traumatic memories. Critical thinking breaks down the subject matter into what is being asserted and the reasons given for that assertion. That way, we can determine its clarity, viability, and efficiency so we can decide to accept or challenge it.

In this course, we will examine a paragraph, and analyze it critically to determine its worth according to sets of specific rules – deductive, inductive, or analogical rules. The tools for critical analysis are explained in the next chapter.
HOMEWORK SET #2.1

In the following sentences, what does the author’s intention? (C) give commands or instructions, (E) express emotions, (P) state facts, (A) make an assessment or give an opinion. Some sentences will admit of several uses.

1. □ It broke!
2. □ It’s broken.
3. □ The machine is broken.
4. □ Break the machine.
5. □ I feel sick.
6. □ You look sick, man!
7. □ Close the door!
8. □ The dress is a classic A line, made of red silk and reaching just below the knee.
9. □ She looks good in that dress.
10. □ Holy smoke!
11. □ It will rain tomorrow.
13. □ If today is Monday, it’s payday.
14. □ If today is Monday, I will eat my hat!
15. □ Place your pencil on the desk.
16. □ It’s wrong to kill.
17. □ Some people believe that it’s wrong to kill.
18. □ It’s not nice to fool with Mother Nature.
19. □ The solution is wrong.
20. □ Redo the problem.
21. □ You are so stupid!
22. □ Press the button, and the bell will ring.
23. □ Your solution does not match the answer in the textbook, so redo the problem.
24. □ The driver has a license.
25. □ For you to be a California driver, you must have a license.
26. □ You would’ve had a license had you taken the exam.
27. □ You look silly in your driver’s license picture.
28. □ Garfield pushed Odie over the ledge.
29. □ I think that Garfield is a stupid comic strip.
30. □ . Garfield is a cartoon cat.
31. □ Hamlet is the prince of Denmark.
32. □ Napoleon smirked while Moscow burned. (Tolstoy, War and Peace.)
33. □ The good man is hardworking, forthright, comely, and respectful.
34. □ Instruction in critical thinking is to be designed to achieve an understanding of the relationship of language to logic, which should lead to the ability to analyze, criticize, and advocate ideas, to reason inductively and deductively, and to reach factual or judgmental conclusions based on sound inferences drawn from ambiguous statements of knowledge or belief. (Dumke, Executive Order 338).
35. □ I believe that the Dodgers won.
36. □ The Dodgers won.
37. □ Lettuce won.
Chapter 3
ARGUMENTS
The building blocks

You know what you are arguing about only when you know what your premises and conclusion are. Anonymous

Working definitions:
A proposition is a grammatically correct, meaningful sentence that is capable of being true or false.
A conclusion is the proposition asserted by the claim.
The premises are the propositions that lend credence to the conclusion.
An argument is a conclusion backed up by a set of premises.

Language makes reasoning possible. To understand how reasoning works, we must (1) look at its structure – the basic components (terms, propositions), and its function (arguments). (2) Examine its goals – the aim of reasoning: how it is achieved, its efficiency and effectiveness in fallacies, categorical syllogisms, and analogies (as deductive and inductive reasonings). That is, what are arguments and how do they work.

A. WORDS, TERMS, & CONCEPTS:
The most basic structure of language are words, grammatically accepted strings of letters, (for instance, “book,” “the,” “running” are words but “koob,” “hte,” or “r2dx” are not). Most words have a multiplicity of meanings. For instance, the word “fall” can mean a drop-in elevation, a season of the year, or a loss of status, depending on how it is used. Each meaning of the same word is usually called a term. Terms can be associated with different words (synonymy), and with different terms to form concepts. Finally, concepts themselves can be intimately linked to related other concepts in a meaningful manner to form what’s best described as an idea. Critical reasoning is generally concerned with terms and concepts. For instance, the word “fall” above can refer to the theological concept of a loss of grace or the historical concept of a nation losing predominance. Distinguishing them can often be difficult, again, depending on the sentences in which the concept appears. Finally, words, terms, concepts, can carry emotional baggage influencing our attitude toward their objects.

B. SENTENCES & PROPOSITIONS:
In logic, the distinction is made between sentences and propositions. A sentence is a collection of words, in a very definite and rather strict grammatical order, usually of the subject-predicate form. Though sentences in language have many functions — questioning, evaluating, declaring or announcing, expressing emotions, giving commands – critical reasoning takes as its main object indicative sentences – sentences that can be true or false, and are thus, extremely important for our survival. To distinguish them from other indicative sentences, such as those used in fiction, we will call them propositions. Propositions must fulfill three main requirements. That they be:
(1) **Grammatically correct:** For instance, “Sunday I slept late” is a sentence, but not “late chair. the the Sunday slept”

(2) **Meaningful:** The sentence, “I slept late on Sunday” is perfectly meaningful, but not “The chair slept furiously” nor “Twas brillig, and the slithy toves, did gyre and gimble in the wabe.”

(3) **Capable of being true or false:** Sentences like “I slept late on Sunday,” might be capable of being true or false, but not “My luv’s is lik a red red rose, that’s fully sprung in June.”

Thus, a **proposition** is a grammatically correct, meaningful sentence that is capable of being true or false. This definition reflects an important functional distinction between grammar, logic and science. In grammar, we are interested in the proper formulation of a sentence (that the sentence does not violate the rules of grammar and to a small degree, that they be meaningful) in order to minimize miscommunication. In logic, we are interested in whether the sentence is a proposition (whether it’s capable of being true or false – doesn’t matter which, just that it be treated as possible, true or false. In science, we want to find out whether the proposition is a fact, whether it’s actually true. And each science has its own methodology for determining the truth of its propositions.

Critical reasoning deals mainly with propositions (though it does not ignore expression of emotions, prescriptions, or evaluations). Clearly, knowing the facts (or true propositions) would give us an advantage in dealing with circumstances. But just knowing them is not enough. We want to use these facts; we want to go from what we know to what we do not know. We want to make inferences. That fire burns is an important fact, but useless if we cannot infer that it will burn me. It could even be argued that our survival depends on making the right inferences – drawing the right information from the facts. And critical reasoning is, in a way, a sharpening of our inference-making ability.

**C. ARGUMENTS:**

An **argument** is a logical unit consisting of several specifically related propositions that make a claim. In an argument, the proposition that states the claim – central to the argument – is called the **conclusion**. And the propositions that give credence (reasons, evidence or any other kind of support) to the conclusion, are the **premises**. No proposition is by itself a premise or a conclusion. They acquire their names by being in a specific relation to other propositions, like family terms such as “mother,” “daughter,” or “uncle.” A woman can be a daughter (of her mother) or a mother (of her daughter). Any proposition can be turned into a conclusion by asking of it “Why? Or into a premise by asking “So?” Further, an argument is characterized by one conclusion, and an indefinite number of premises. In any piece of expository writing, there are as many arguments as there are conclusions – each conclusion indicates an argument, regardless of the number of premises. And the art of critical reading involves the ability to analyze critically, that is, identify the argument’s premises and conclusion.

The premises-conclusion format can be applied to many kinds of intellectual activities: to explanations, predictions, commands, opinions, beliefs, claims, proposals, inferences, etc. Though their aims might be different, they all share the same logical premise-conclusion structure, and merit the same kind of critical analysis. Take, for instance, a descriptive or narrative non-fiction essay – one that argues for, persuades, or exhorts you to adopt a course of action. It has a lot of words and a lot of sentences in it. Some are important, some aren’t. Recognizing the function of these element are aids in understanding what is said, what’s all about. How do we manage that?
By means of a critical analysis of the argument. And how do we analyze critically?

D. ARGUMENT STRUCTURE:
Analyzing an arguments hinges on recognition of an author’s intention, an intension communicated by some specific words chosen: by the premises and conclusion indicators.

1. Identify the conclusion: A conclusion is a proposition the author is trying to persuade or convince you of – what he is trying to prove. They are indicated textually by such expressions as “therefore,” “so,” “in conclusion,” etc. These expressions are called conclusion indicators. Using P to stand for the premises and C for the conclusion, the chart below shows a number of phrases that indicate a conclusion:

| P therefore C |
| P, hence C  |
| P, thus C    |
| P, so C      |
| P, accordingly, C |
| P, in conclusion C |
| P, consequently C |
| P proves that C |
| P, As a result C |
| P, it follows that C |
| P, we may infer C |
| P, I conclude that C |
| P, which shows that C |
| P, which means that C |
| P, which entails C |
| P, which implies C |
| P, which allows us to infer C |
| P, which points to the conclusion that C |
| P adds up to C |

and any phrase synonymous with “therefore.”

Every argument has only one conclusion, though it may have many premises. And there are as many arguments as there are conclusions, regardless of the number of premises. For instance, in a well-organized essay, an author present several arguments, linked to each other in order to bolster a major conclusion. The major conclusion would then be, the point of the whole essay.

2. Identify the premises: Conclusions are not just stated as simply true. They are not laundry lists of beliefs. They are backed by the premises, the reasons, facts, evidence, beliefs, or truths. They are “proven.” One can discover what the premises are by asking "Why" of whatever conclusions the author wants you to accept. Another is to look for expressions, such as “because,” or “since,” that function as premise indicators. The following phrases indicate the premises:

C, because P  
C, since P  
C, for P  
C, as indicated by P  
C, as P  
C, inasmuch as P  
C follows from P  
C, as shown by P  
C. The reason is that P  
The reason for C is P.  
C, assuming P.  
C in view of the fact that P.  
C may be inferred/ derived from P  
Why C?  P

and any phrase synonymous with “because.”

For the sake of simplicity, we will use as prototypes two basic forms. Using C for any conclusion and P for any set of premises, we have:

C because P.  
P, so C.

All arguments can be reduced to these formats without a loss of meaning.

Understanding an argument requires us to examine not just the essential components of the ar-
gument, but its consequences, assumptions, coherence, and consistency, to determine its value. That is, we must to analyze it to determine its efficiency and effectiveness.

3. Confusing premises and conclusion: A good writer usually uses premise-conclusion indicators, but often because of error, lack of clarity, or even deceit, the omit them. That omission can cause misinterpretation or confusion. For instance, suppose someone tells you:

1. I am coughing. I have the flu.

You can interpret the above as an argument:

1a. I have the flu, so I am coughing.

Or

1b. I am coughing, so I have the flu.

In the above examples, (1a) is an explanation for my cough, namely, “I have the flu.” Or “The flu is causing my cough.” (1b) is a diagnosis from my symptom, “Look at that, my cough tells me I am sick!” In (1a) you know you are sick, and in (1b) that you are coughing. Here, the speaker is at fault for not being clear. But then, again, I could be two premises that would support the conclusion “I can’t show up to work today.” Which is a different argument altogether.

Confusing premises and conclusion is not a trivial matter, for it can convey very different messages: A recent political argument about undocumented immigrants went as follows:

2. Deport them. They are animals.

The reader/listener can interpret the argument either as:

2a. Deport them, because they are animals.

What’s the difference? (2a) talks about animals (whether undocumented, documented, citizens, or whatever) and proposes deportation as a punishment. (2b) shows a prejudice toward the people deported by insults them as animals. Whether this is a proposal in need of justification or a racist insult can be politically costly.

4. Getting to the core: Most argumentative writings presents us with a conclusion and a set of premises, but also carries much that is unnecessary, be it for emphasis, clarification of points, secondary comments, etc. While these words might be important from a literary perspective, critical reasoning works better when they are ignored. Best would be to ask yourself: What is the author’s intent? What exactly is being asserted? What exactly is the conclusion? What exactly are the relevant premises. Often, it would be even better to write them as unadorned declarative sentences that embody the essentials of the argument, leaving aside all rhetorical devices. This is known as paraphrasing the argument. Though not easy, it can be, in the long run, a time-saver.

For instance, the above paragraph could have been rephrased:

“People talk too much. So, rephrase the premises and conclusion in the simplest possible language.”

Or even to simply:

“People blab, so rephrase.”

We may lose subtleties and nuances, but we gain clarity.

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1 It’s a good habit to underline conclusions and box premise-conclusion indicators.
5. **Look for assumptions:** Finding premises and conclusions might not be that easy. They might be assumed or tacitly taken for granted and thus remain hidden rather than clearly stated. For instance, we assert that

The sock is not red, **so it must be blue.**

we are assuming that all socks are either red or blue. Or when we state that

**Sam must carry his tranquilizers with him because** the criminally insane must always be medicated.

we are saying a mouthful (that Sam is criminally insane, that all criminally insane are dangerous, and that he is probably dangerous!) Often, the most debatable premises or most interesting conclusions are those left unsaid — those hinted at or implied but never openly stated.

It is impossible to state all the tacit assumptions made — some obvious, (the writer is a human being, the reader knows how to read, this essay is not an accidental jumble of words, the author is serious, etc.). Though they might seem downright stupid, they must be born in mind lest the author’s intentions be misunderstood, as in jokes such as the computer Basic program known as ELIZA: "Used Braille books in excellent condition. Must see!" the sign "Turn Lights On When Dark;" in satirical pieces such as Lewis Carrol’s "Jabberwocky," Alexander Pope's "A Modest Proposal," etc.

E. **ARGUMENT FUNCTION:**

Another aspect of argument analysis is the examination of an argument’s function: its persuasive-ness: the relation between premises and conclusion, its worth.

1. **Persuasiveness:** The aim of an argument is to persuade an individual to accept a belief, adopt an attitude, take a course of action, etc. — or to deny, reject or change them. Persuasion can take many forms: social pressure threats, abuse, incentives, etc. We see it at work in politics, advertisement, daily conversations, and so on. Psychologists study them in depth, but critical reasoners, because of their commitment to truth, focus on the kind of persuasion that involves good reasoning.

There is a difference between psychological and logical persuasion. The first involves, personal experiences, emotions, motives, likes and dislikes, biases, and so on. It involves generalizations and hypotheses about how people behave or believe and do things. Critical thinking involves logical rules that assure the truth of a conclusion from a set of premises. Though related they work independently. Logical arguments are supposed to guarantee that they deliver the truth. However, sometimes they fail to persuade. Some arguments are both good and persuasive (e.g. those convincing you to take a vacation when you need it), others good but not persuasive (e.g., those against smoking), yet others persuasive though we know they are not good (buy it for its glitz and not because you need it). And persuasion can work through deception: by confusing, muddying issues, manipulating beliefs, giving false information, etc.; by making us believe a bad argument as a good one. It relies on the worth of logical arguments and counterfeits them. These ruses lie at the core of fallacious arguments. (See Chapter 5).

2. Determine the relation between the premises and the conclusion: Once you have established the conclusion and the premises (what the author is asserting and his or her reasons for asserting it), you have established the argument. Note that the conclusion is always dependent on the premises: The claim embedded in the conclusion is true or acceptable because the premises are true or acceptable (and their being true or acceptable premises persuades you of the truth or acceptability of the conclusion). Next, you must determine the meaning of “because,” that is, the kind of relation between them. This relation between premises
and conclusion could be deductive, inductive, hypothetical, statistical, analogical, habitual, conditioned, or just persuasive. What the guarantee given is, would often determine the worth of the argument. See Chapter 4.

3. Determine the argument’s worth: An important part of analyzing an argument is to evaluate it. What kind of guarantee does it promise the conclusion? Does it deliver? We want to evaluate the argument to decide if it is acceptable or it misses the goal. To do that, (a) you could check on the veracity or accuracy of the premises; (b) you could check on the justification for accepting the premises; (c) or check on the logic of the argument -- whether the conclusion does, in fact, follow logically from the premises.

F. VARIETIES OF ARGUMENTS:
An argument is a collection of propositions used to assert a point (conclusion) and give reasons (premises) for that assertion. Argument analysis tries to discover the structure of arguments: What is the conclusion? What the premises?

Wherever there is a conclusion, there is an argument. How do we identify conclusions? Semantically by asking yourself “What is the author trying to prove?” Mechanically by looking at conclusion indicators, verb forms, or even premises indicators that point to a conclusion.

Because of their popularity, usefulness, and importance, the variety of argument types is enormous. Arguments can be used to claim, inform, command, explain, predict, persuade, evaluate, deceive, defend or attack a position, bolster beliefs, etc., depending on the arguer’s intention. For instance, in a command, the conclusion is not a proposition (commands are neither true nor false but obeyed or not):

Get going because you are late.

Still, the argument’s compliance or persuasion depends on the strength of the premises (whether they are true or acceptable). And in an explanation, the conclusion is already known to be true, and it’s the premises that are offered as tentative:

Bats are birds because they fly.

An explanation is an attempt to fit the conclusion to a set of known facts, and is assessed by how successful it is.

To complicate matters, arguments can range from a simple sentence to complex or convoluted paragraphs. And depending on the assurances given to the conclusion, they can be deductive, inductive, statistical, hypothetical, analogical, etc.

While the premise/conclusion format and logical rules are the same, purposes might vary. Here the strategy is to start with the intention and complexity of the arguments, from straightforward claims to semantically complex dissertations. The assessment of such arguments, that is, the strength of the assurance or guarantee of the conclusion will be dealt with in the next chapter.

1. Basic arguments In straightforward arguments, the author usually tells you what they are trying to prove and the reasons:

Since it is raining hard, it can be concluded that the ground is wet.

I have no money, because I spent it all.

I got up late, and my car broke down, and the bus did not come in on time, and the elevator was not working, So I am going to be late for class.

Note that the conclusion can appear anywhere in the argument. At the beginning:

Apples are good because they are nutritious and delicious.

In the middle:

Apples are delicious, so they are good because they are also nutritious.
Or at the end:

Apples are nutritious and delicious, so they are good.

And verbs like “must,” “should,” etc., indicate a conclusion, without the presence of other premise or conclusion indicators:

You must clean your room. It’s a mess. Your clothes are all over the place. It’s full of dust.

For this medication to work, you should take one pill every four hours.

2. Complicated Arguments: Many arguments are not that transparent as the previous ones and require more work. For instance, the conclusion might be put in the form of a rhetorical question, with or without indicators:

Why is the ground wet? It’s raining outside.

You are hungry. You are tired. Should we go home?

The food is lousy, the prices high, the waiters snotty. Must we eat in this restaurant?

Other times, even straightforward arguments are formulated in fancy language, poetical flights, or other embellishments that make the whole paragraph long-winded and difficult to follow.

Laws enforced by fear, draconian laws, harsh laws, are broken, as it often happens, when there are not enough enforcers, impunity is perceived as possible. But those laws inspiring respect will be upheld even in solitude. Compassion, and not fear, is what inspires respect. We can assuredly and with peace of mind conclude that that human quality and divine gift of the gods, compassion – the ability to understand either foibles as when acting by greed or selfishness weakness as when not being strong to counter desires, or ignorance as when not having delved into the consequences – is part of the law.

Position: Sometimes the conclusion appears at the beginning, or the end of the paragraph; and often it is sandwiched somewhere in between. For instance,

Only bad dogs bite, so my dog is not bad because it doesn’t bite.

Length is also a factor. The longer the argument, the more difficult it is to keep track of its structure. Such arguments can lead to confusion, accidental or intended. So is verbosity. For instance:

“It isn’t safe,” has stated that bastion of truth and veracity, and the guardian of American health, the Surgeon General, in a thick report full of statistics and case studies, itself a veritable example of scientific research – I repeat, “safe, to smoke cigarettes.”

This is best remedied by underlining the conclusion, boxing the premise or conclusion indicators, and, in some instances, numbering the premises.
HOMEWORK SET #3.1
In the arguments below, underline the conclusion and box any premise or conclusion indicators.

1. I am not doing well in this course because you are not teaching to my learning style.
2. This homework is stupid since I don't understand it.
3. I don't understand it, so it must be stupid.
4. Today is Friday because yesterday was Thursday.
5. Today is Friday because it says so in the calendar.
6. People get confused if they don't know what's going on.
7. Vote for Quayle because you should vote for the best, and the vice-president is definitely the best.
8. I should go home since the class is over.
10. Don't do it, because I said so.
11. Cats are felines and felines mammals. So cats are mammals.
12. Big feet cause intelligence because there is a very high correlation between the size of a person's feet and getting A's in college.
13. Since felines are mammals, cats are mammals, for cats are felines.
14. Cats are mammals since cats are felines and all felines mammals.
15. As cats are felines and mammals, it stands to reason that felines are mammals.
16. Dogs are mammals and mammals’ vertebrates. Therefore, dogs are vertebrates.
17. As the stomach secretes gastric juice, the liver bile, and the kidney urine, so the brain must secrete thought.
18. In conclusion, arguments have been hidden from the eye, but this is because the author wants variety, change, avoidance of dull style.
19. Today is Friday. Therefore, it's payday.
20. If I were a rich man, I would have lots of money. But I don't have lots of money. Therefore, I am not a rich man.
21. I am your teacher. So, you must trust me.
22. I am rich. Hence, I am better than you.
23. Today is payday. I get paid on Fridays, and today is Friday.
24. Discipline is the soul of armies: for without it there are no soldiers, only confusion and defeat.
25. You should buy insurance from us because you don’t want to be caught unprepared.
26. Affirmative action should be abolished because it gives an unfair advantage to people who have not earned it fairly.
27. One of the reasons for the decline in SAT scores is that more and more under-prepared minorities are taking the exams, thus dragging down the general averages.
HOMEWORK SET #3.2

In the arguments below, underline the conclusion and box any premise or conclusion indicators.

1. Smog costs industry over $2.1 billion a year in employee health related costs. Can we afford air pollution?

2. Women probably lack the physical and psychological stamina to endure the stress of prolonged combat, as few women can easily carry the 100 pounds of equipment that infantry soldiers now take into combat.

3. Now they knew that she was a real princess, since she had felt the pea that was lying on the bedstead through twenty mattresses and twenty eiderdown quilts. Only a real princess could be so sensitive.

4. Barry Goldwater to the contrary notwithstanding, extremism in defense of liberty, or virtue, or whatever, is always a vice -- because extremism is but another name for fanaticism which is a vice by definition.

5. Felines are mammals. Cats are mammals. Cats must be felines.

6. I gave you two quarters, but took away one, you must have enough to buy chewing gum if I now give you a dime.

7. If thou never west at court, thou never sawist good manners. If thou never sawist good manners, then thy manner must be wicked, and wickedness is a sin, and sin is damnation. Thou art in parlous state, shepherd.” Shakespeare, As You Like It, Act III, scene 2.

8. Wouldn’t it be better to simply force Clinton to resign? After all, he is already impeached, he is nothing but a redneck, and probably guilty as sin.

9. A rental deposit is required if the tenant is a student. Rental deposit is not required only if tenant is working for a living. No rental deposit is required if and only if tenant is a student and is working for a living. So, in conclusion, if either the tenant is not working for a living or is a student, then a rental deposit is required.

10. It is not the case that bacteria grow agar or that they react to sunlight. So if a viral infection is expected, then if bacteria grow in agar, then they will react to sunlight.

11. I could be wrong. I better watch out.

12. Do not trust the malicious, so distrust tyrants for they are malicious.

13. Critical reasoning deals with arguments, and arguments are built up out of sentences which, in turn, are made up with words. Shouldn’t we then start our study with words?

14. Experimental and anecdotal evidence support the notion that primates are socially intelligent animals. Macaques, velvet monkeys, and baboons recognize and differentiate between troop mates; they adhere to sophisticated hierarchies; they form and maintain relationships that benefit them in daily activities and on occasion they manipulate others to serve their own desires.

15. The nation is headed for troubled times. We’ve had a major stock market crash. A large number of banks and savings and loans have failed. Investors are increasingly unwilling to put their money in the market. Manufacturing is not growing. Jobs are getting scarcer. People who want to work can’t. Businesses are downsizing. The same thing happened in the past, in the 1870s, the 1890s, and the 1930s depressions. And we then ended up with a major economic collapse.
3. Complex Arguments: When analyzing arguments, missing elements can complicate the task. There might be no premise or conclusion indicators:

No shirt. No shoes. No service.

I don’t like you. You are ugly.

Or the premises might be missing:

You must not touch the flame.

You should have some loose change in your pocket.

In some cases, the conclusion might be left up to the reader.

Voters always choose the best candidate, and they voted for Trump.

Drinking two six-packs of beer can cause severe alcohol poisoning.

Often, it’s the premises that are hidden or distorted. For instance:

Give me the money, otherwise I will shoot you.

Here the premises are the opposite: You do not want to be shot. So, the argument is tacitly framed as

Give me the money because you don’t want me to shoot you.

Most “or” arguments and threats can be analyzed this way.

In addition, explanations, predictions, evaluations, proposals and all sorts of claims are often presented as groups of arguments that depend on each other to make a claim, for instance

Undocumented immigrants must be deported because they are here illegally. That means, they are already criminals, and criminals are a danger to society. They already broke the law and we have no guarantee that they will not break it again, and rape, murder or steal from our good rob the good citizens. It’s the government’s duty to protect its citizens, so the best policy is to deport them.

Here we have several arguments giving reasons for a shared conclusion. Other arguments make their claims by chaining a series of dependent arguments: The conclusion in one argument can serve as a premise of another argument; or the premises of an argument are the conclusion of another one. For instance:

Today is Friday, so it’s payday, so I will go downtown and have a whoopy time!

Or

I got my license because I passed the exam because I studied the DMV’s driver manual.

Paragraphs, essays, books present their views in such argument families. That is one reason for the underlining of conclusions and boxing premise or conclusion indicators when critically reading the piece. Once those conclusions are identified, the critical reader can see the gist of the argument, the claim being made, and can examine each step in the chain to determine if the whole holds together or there are faulty reasoning steps—a definite time saver for a student trying to come to grips with dense scholarly materials, be it in the sciences, literature, politics, etc.
HOMEWORK SET #3.3

In the arguments below, underline the conclusion and box any premise or conclusion indicators.

1. Americans! We can't trust you!
2. To a child who wants to play: "Mama is busy now!"
3. So, Mary's lamb must have gone to the opera.
4. Strictly speaking, an argument is an attempt to convince someone of something by means of accepted beliefs: the persuasive force of the point you are trying to convince some one of lies on the accepted beliefs. If those beliefs are true, so must the point in question. That is, if the premises are true, so must the conclusion. But why? Why must this relation hold? In part because we have some prior conviction that one thing follows from another: some ways of thinking that guarantee that type of reasoning. That is, the rules of logic. And what of these rules of logic? They seem to represent normal patterns of thinking, patterns that also seem to work. And they are more successful than the alternatives. Why? Because these rules embodied common sense. And they seem to be similar to mathematical reasoning. To avoid the various Fallacies of Ambiguity, we must have and keep the meaning of our terms clear in mind. One way to accomplish this is by defining the key terms that are used. Since shifts in meanings of terms can make arguments fallacies, and since ambiguity can be avoided by careful definition of the terms involved, definition is an important matter for the student of logic. The U.S. is a free country. I don't have to pay for anything.
5. Think before you talk. Otherwise you might put your foot in your mouth.
6. Dear Editor: You argue that the three-strike laws are not working because it’s not deterring the drug trade. Well, I see it working. Why? It’s cleaning a whole lot of f@#*! drug dealers from the street. (Letter to a newspaper editor)
7. Children need rules like they need a hole in the head.
8. Then there is the pernicious argument foisted on an innocent American public by the left-wing media. From a statistical correlation between cigarette smoking and lung cancer, it is argued that you will probably die of cancer because you smoke cigarettes. This is a poor try at deceiving us into believing that smoking causes cancer. Further, this argument is faulty because it assumes that cause is proven by probability. It can be counter-argued, that American males have a greater probability of dying of heart attacks than the American females: You will probably die of a heart attack because you are a male. (An X Tobacco Company spokesperson.)
9. Just because they shed tears doesn't mean that crocodiles are sad.
10. I don’t fly airplanes. If God would have meant me to fly, He would have given me wings.
11. It has been said that good things will happen to you when you only think positively.
12. I think some of our schools should be less rigid than they still are and that teachers should not oppress their pupils in an authoritarian spirit as some of them still do. Yet, it is essential for teachers to make clear what they expect of children. This is like giving a vine a pole on which to grow.” Dr. Spock
16. It is hard to explain the forms of government we do have, except for what we can gather from reading the works of the Founding Fathers of the American Republic. Had the Founding Fathers intended that our most serious political differences should be the province of eminent appointees instead of elected politicians, they would have given us a mandarin oligarchy instead of a Congress.

17. To understand critical reasoning, we must first look at language. Of language, we can study its articulation (speaking, listening, writing, or reading), its communicative function (meanings, references, etc.), or its structure (its grammar). Here, we are going to focus on the printed word. Why? Because language is a symbolic representation in sounds of thought. That is, language is an expression of our thinking. And the printed word is a derivative symbolic system of those oral expressions. That is, the printed word is written language.

18. Thinking is not equivalent to language – there is more to thinking than its linguistic expression. However, because of convenience, we have trained our thoughts to fit the molds of language. We use language to not just frame our thoughts but to communicate with others, so as to ease our interaction with the environment. After all, living involves such interaction and manipulations to suit our purposes. And that interaction becomes more efficient and effective when we communicate our thoughts and purposes to others. That is, language is the social consequence of our ability to think, and vice-versa. And a very effective tool it is: Every idea, whim, emotion, claim, can be presented in language. And because we use language in almost all our human activities, it also affects the way we think. It seems reasonable to assume that if we want to improve our ability to think critically, we should start with language as both the conveyor and director of thought. Thus, the original claim that to discover the principles of critical reasoning, we need to examine situations that can be repeated easily and conveniently – the printed word.
G. RACIST ARGUMENTS:
For any group of human beings, there always seems to be another group they dislike. They are referred as “them” or “the others” and are endowed with hostile characteristics. This is one of the root causes of racism. Critical Reasoning, however, does not investigate the cause of racism; that is the task of social scientists. Rather, it examines and evaluates its expression.

Racist arguments are often flawed forms of reasoning that try to justify beliefs, persuade others, or express opinions, all denigrating individuals or group. They harm others – even when not intending to – by depriving them of their rights and privileges. They are not necessarily irrational rantings, or a different type of argumentation. They are arguments that either reflect a disregard or confusion about the veracity of the premises, furnish premises that do not provide good reasons for their conclusions, or arrive at those conclusions erroneously.20

The first kinds of biased arguments – those that disregard or twist the veracity of the premises – have been studied in the social science, where the researcher is enjoined to formulate the most accurate and unbiased premises from which to draw the best inferences. The assumption is that unbiased conclusions can come only from unbiased premises. And biased conclusions are to be avoided because they eventually lead to error. To avoid these kinds of arguments, individual disciplines have developed a variety of specific strategies, known as good methodology.

Note that often, even when the premises are shown to be clearly false, people fail to give up the arguments, taking refuge in conspiracy theories, fake news, alternate realities, etc. That is, often enough truth fails to persuade.

Another flaw with biased arguments is the confusion of facts and opinion. In many racist arguments, the premises are but opinions. Opinions are subjective value assessments and depend on individual’s preferences. Facts are subject to external constraints of an objective nature and tend to impose themselves regardless of opinions.

The third kind of error is due to flawed reasoning. But bad and good reasoning are more general qualities of thought and habits of human beings, not just of researchers on specific disciplines. Since the purpose of an argument is to assert a conclusion as true, on the basis of true premises, a biased argument can contribute to the opposite result.

Good reasoning requires, as starting points, not only to guarantee the truth of the premises, but also their coherence and consistency. It also requires the critical thinker to avoid certain common errors of inference, and to assure that the conclusion is guaranteed by the premises.

Here, the strategy is to first learn to recognize argumentation in general and racist arguments in particular. Then develop a sensitivity for different forms of flawed arguments, and finally, learn to use rules for good argumentation, to avoid racist arguments.

We will first examine prototypes of racist arguments, but instead of working with the standard blatantly racist arguments, such as

| You are stupid because you are a blonde. |

we are opting for subtler, and more difficult, ones to detect. For instance,

| Did you hear about the blonde who just bought an A.M. radio? It took her two weeks to figure out that you could play it in the afternoon. |

20 Unfortunately, there are some logically sound racist arguments, with true premises. However, they usually violate legal or moral injunctions, thus outside the scope of Critical Reasoning.
HOMEWORK SET #3.4
The following arguments have been circulating around the net for a while pretending to be well-reasoned out arguments. They show the subtlety and variety of racist arguments. What are the premises? What is the conclusion? What’s wrong with them?

I don't think being a minority makes you a victim of anything except numbers.

The only things I can think of that are truly discriminatory are things like the United Negro College Fund, Jet Magazine, Black Entertainment Television, and Miss Black America.

Try to have things like the United Caucasian College Fund, Cloud Magazine, White Entertainment Television, or Miss White America; and see what happens. Jesse Jackson will be knocking down your door.

Guns do not make you a killer. I think killing makes you a killer. You can kill someone with a baseball bat or a car, but no one is trying to ban you from driving to the ball game.

I think that if you feel homosexuality is wrong, it is not a phobia, it is an opinion.

I have the right "NOT" to be tolerant of others because they are different, weird, or tick me off.

When 70% of the people who get arrested are black, in cities where 70% of the population is black, that is not racial profiling, it is the Law of Probability.

I believe that if you are selling me a milk shake, a pack of cigarettes, a newspaper or a hotel room, you must do it in English! As a matter of fact, if you want to be an American citizen, you should have to speak English!

My father and grandfather didn't die in vain so you can leave the countries you were born in to come over and disrespect ours.

I think the police should have every right to shoot your sorry self if you threaten them after they tell you to stop. If you can't understand the word "freeze" or "stop" in English, see the above lines.

We did not go to the aid of certain foreign countries and risk our lives in wars to defend their freedoms, so that decades later they could come over here and tell us our constitution is a living document; and open to their interpretations.

I don't hate the rich. I don't pity the poor. I know pro wrestling is fake, but so are movies and television. That doesn't stop you from watching them.

I think Bill Gates has every right to keep every penny he made and continue to make more. If it ticks you off, go and invent the next operating system that's better, and put your name on the building. Ask your buddy who invented the Internet to help you. (Al)

It doesn't take a whole village to raise a child right, but it does take a parent to stand up to the kid; and smack their little behinds when necessary and say "NO!"

I am sick of "Political Correctness." I know a lot of black people, and not a single one of them was born in Africa; so how can they be "African-Americans"?

Besides, Africa is a continent. I don't go around saying I am a European-American because my great, great, great, great, great, great grandfather was from Europe. I am proud to be from America and nowhere else.
Practice/Diagnostic Test: Quiz #1

In the following arguments: (1) underline the conclusion; (2) and box, if any, the conclusion and premise indicators.

1. Few regimes under guerrilla attack care about their own dispossessed -- which goes to show why they are under attack.

2. In an argument, some words play the role of premise or conclusion indicators, such as "therefore" and "because," or "so." Inasmuch as "therefore" is a conclusion indicator, it follows that "because" is a premise indicator.

3. Common sense tells you that coffee is served hot; that the drink containers used in fast food restaurants is made of paper materials; that paper can be bent easily; that drivers need both hands to properly steer their vehicles; that placing a hot cup of coffee between the legs of a person driving a vehicle is not a safe thing to do. Do restaurants now have to spell out the consequences?

4. A man is judged wise by a single word he utters. Equally, he is judged foolish by a single word he utters. Hence, one really must be careful of what one says.

5. Discipline is the soul of armies; without it there are no soldiers, only confusion and defeat.

6. All of the positive contributions that sports make to higher education are threatened by disturbing patterns of abuse, particularly in some big-name programs. These patterns are grounded in institutional indifference, presidential neglect, and the growing commercialization of spots combined with the urge to win at all costs. This means that on many campuses, big-time revenue sports are doing more damage than good.

7. Often, authors do not make their arguments explicit, but this could be because the author might want variety, change, or the avoidance of dull style.

8. The saying that "no one is voluntarily wicked or involuntarily happy" seems to be partly false and partly true for on one is involuntarily happy, but wickedness is voluntary.

9. In view of the fact that politicians are powerful figures, it follows that they must be made accountable, for power lies with voters.

10. One way to avoid the fallacies is to define the key terms that are used. Since shifts in meanings of terms can make arguments fallacies, and since ambiguity can be avoided by careful definition of the terms involved, definition is an important matter for the student of logic.

11. Wouldn’t it be better to simply force Clinton to resign? After all, he is already impeached; he is nothing but a redneck, and he is probably guilty as sin.

12. Women probably lack the physical and psychological stamina to endure the stress of prolonged combat, as few women can easily carry the 100 pounds of equipment that infantry soldiers now take into combat.

13. Experimental and anecdotal evidence prove that primates are socially intelligent animals. Macaques, velvet monkeys, and baboons recognize and differentiate between troopmates; they adhere to sophisticated hierarchies; they form and maintain relationships that benefit them in daily activities and on occasion they manipulate others to serve their own desires.

14. The only reason that could be given for the failure of a particular legislation is that people don't understand the law, and they end up breaking it.

15. Thinking is a function of man's immortal soul. Accordingly, no machine can think, inasmuch as the existence of the soul is a fact.