A QUICK INTRODUCTION TO ARGUMENTS AND ARGUMENTATION

PART I: Key Concepts

Logic: Logic is the study of methods for constructing and evaluating inferences.

Inference: An inference is a movement in thought from one idea to another. Simple inferences hold, for example, between perceptual evidence ("The sky is turning gray.") and beliefs ("It is going to rain today."), and between beliefs and decisions to act ("I will carry my umbrella today.").

Argument: An argument can be described as the representation of an inference. Usually, arguments are given in language (speech or written text) to other persons, though they need not be. When one gives an argument, then, typically one is presenting reasons for accepting a further claim.

Quarrel: A quarrel is a heated emotional exchange between two persons who have abandoned any attempt at rational persuasion and have adopted the causing of emotional injury to the other party as a primary goal. No quarrel is an argument (although a discussion between two parties giving arguments may degenerate into a quarrel).

Premises: The premises are the statements or reasons being put forward to support the conclusion.

Conclusion: The conclusion is the main claim or the "point" of the inference being expressed in the argument.

Argumentation: Argumentation is the mutual giving, consideration, analysis, and evaluation of arguments between two or more parties. Questioning the arguments of the other parties and challenging their inferences is a perfectly normal and legitimate part of most argumentation. A common—but by no means universal--goal in argumentation is *rational persuasion*. Argumentation can also be used to weigh possible courses of action, to evaluate proposed explanations, or to work out answers to common problems, among other things.

Rational Persuasion: Rational persuasion is the attempt to get others to accept a claim by appeal to the reasons and evidence that support the claim, instead of appealing to emotions (like sympathy, anger, fear etc.), pure self-interest or wishful thinking, or by leveraging one's own status as an authority, or as a trustworthy person, etc.. In rational persuasion one aims at giving others, as much as is possible, an *objective* reason for believing a claim.

Debate: A debate is a competitive, formally organized, judged rational persuasion contest with rules and a declared winner. Very few instances of argumentation—even those that involve rational persuasion—are actually debates. That means most argumentation is <u>not</u> about winning or losing!

Objective: A reason or a statement is objective if its truth is a matter of the way the world is, independently of any individual's thoughts, feelings, perceptions, etc. For example, the statements "The pyramids at Giza were built before Napoleon lost the Battle of Waterloo." and "Any two things equivalent in mass to a common third thing are equivalent in mass to each other." are objective.

Subjective: A reason or a statement is subjective if its truth is a matter of an individual's thoughts, feelings, perceptions, etc.. For example, if Sally says "I despise cats." then she isn't really saying something properly about cats considered generally, as a species. She is simply reporting her subjective feelings about them. In other words, she is telling us about herself. We can therefore think of subjective statements as being primarily about the person that makes them.

Intersubjective: Sometimes there are statements that represent what appears to be true from the perspective of a wide cross-section of individual perspectives. Though very often, for practical purposes, such statements are taken to be true, they are also held open to revision upon further evidence. Many statements in science are like this. For example, the statement, "There are nine planets." represented the intersubjective agreement of nearly all astronomers until better evidence, only recently available, revealed that one of the group of planets was a different sort of object. One way to think about intersubjectivity is to think about the convergence of considered judgments of informed, critical, and careful investigators. Intersubjective confirmation is not a matter of majority rule, or what "society thinks". The relevant group of informed, critical and careful investigators may be (and typically is) a minority in most societies! To put the point another way, truth is not a matter of majority agreement.

Truth: We shall use a simplified definition of truth: A statement is true if and only if the world (*objectively*) is the way the statement says it is (e.g., "All samples of the substance 'water' contain molecules of hydrogen and oxygen.", "The city of Detroit is located in Michigan", etc.). It is important to keep knowledge and truth separate concepts. We do not always *know* if a particular statement is true. In those cases we try (with others, *intersubjectively*) to figure out what the best available evidence and arguments suggest as the most likely to turn out to be true, and we remain mindful of the possibility that our position could turn out be false upon later evidence. It should be clear from the foregoing that merely believing a statement oneself (*subjectively*) does not make it true. When a person says a statement is "true for me", then, the only thing they're saying from an objective point of view is that it is true *about them* that they believe that statement.

PART II: Argument Evaluation Terminology

Relevance: Premises are *relevant* to a conclusion when they bear some evidential weight towards it. In other words, a premise is relevant to a conclusion if it is the case that the premise, if true, would count as evidence for the conclusion. Each premise must be individually assessed for relevance to the conclusion. Keep in mind that relevance is a contextual judgment, and that the relevance of one premise may be tied to that of another. For example: the premise "Jones has red hair.", by itself, is irrelevant to the conclusion "Jones murdered Smith." However, it *is* relevant if we also have as a premise of the same argument something like, "The crime lab confirms that Smith's murderer had red hair." Irrelevant statements are not considered as a part of an argument, even when they are offered as such.

Sufficiency: The premises of an argument are said to be *sufficient* when there is an appropriate logical connection between the premises and the conclusion. For simplicity we will consider two standards:

- **Validity:** An argument is said to be (deductively) valid if it is impossible for all of the premises to be true at the same time that the conclusion is false. It is invalid otherwise. If an argument is valid and all of its premises are true the argument is said to be **sound**. In a sound argument, the truth of the premises guarantees the truth of the conclusion.This is the highest standard of sufficiency an argument can satisfy.

- **Strength:** An argument is said to be (inductively) strong if it is highly unlikely, though possible, that all of the premises could be true at the same time as the conclusion is false. It is weak otherwise. If an argument is strong and all of its premises are acceptable the argument is said to be **cogent**. All such arguments are invalid because there will always be a chance the conclusion is false even when the premises are true. They can still be excellent arguments. Think of them as arguments in which the premises give a very good reason to bet on the conclusion's turning out to be true.

Acceptability: Premises are acceptable when there is good reason to believe that they are true, and little or no reason to believe that they are false or doubtful. Premises that are known to be true are *automatically* acceptable.

PART III: Flow Chart for Evaluating Arguments

Evaluating arguments is a matter of trying to find out whether the **premises** give good reason to believe the **conclusion**. Both sound and cogent arguments do this.

A. Preparation; Assessing Relevance

STEP 1: Identify the **conclusion** of the argument.

STEP 2: Identify the **premises** of the argument.

STEP 3: Put the argument in standard form. Separate out all information that is not **relevant**. Be fair and charitable and focus on understanding what the speaker or writer has said. You must get their argument right BEFORE you can analyze it!

STEP 4: *Temporarily* put aside all questions about the actual truth or falsehood of the premises and the conclusion. (This comes later!)

B. Assessing Inference Sufficiency

STEP 5: *Provisionally* suppose that all of the premises are true, and ask the following question:

If all of the premises were true, would it be impossible for the conclusion to be false?

IF the answer is **YES**: → The argument is **VALID**. → Skip to **STEP 7**.
IF the answer is **NO**: → The argument is **INVALID**. → Continue to **STEP 6**.

STEP 6: *Provisionally* suppose that all of the premises are true, and ask the following question:

If all of the premises were true, would it be highly likely that the conclusion is true too?

IF the answer is **YES**: → The argument is **STRONG**. → Continue to **STEP 7**.
IF the answer is **NO**: → **STOP**. The argument is **WEAK** and **FAILS**.

C. Assessing Premise Acceptability

STEP 7: Ask yourself the following question:

To the best of your knowledge, are ALL of the premises of this argument acceptable (i.e. are they known to be true, or the deliverances of a trustworthy source, etc.)

IF the answer is **YES *AND*** the inference is ***VALID:*** → The argument is **SOUND**. ✯

IF If the answer is **YES *AND*** the inference is ***STRONG:*** → The argument is **COGENT**. ✓

IF the answer is **NO:** → **STOP**. The argument **FAILS**. ✗

If one or more premises are not acceptable—especially if they are false--then the type and quality of the inference does not matter!