Philosophy 57 — Day 1

- Administrative Stuff
  - Non-Registered Student Roster (please fill-out if NOT registered)
  - Adding (2/17 last day), dropping (2/10 last day), near our limit (40–42)
  - Next time (1/28) I'll post a roster for the class (5–7 adds chosen randomly)
  - Greensheet
    - Instructor Information
    - Course Home Page (discuss handouts, links, etc.)

      http://philosophy.wisc.edu/fitelson/57/
    - Textbook & Readings (including CD–ROM + Student Res. website)
    - Grading Information
    - Academic Honesty
    - Special Learning Needs
- Getting Down to Business: Brief Overview of Course + Starting Chapter 1

Brief Overview of Course

- Chapter 1: What is Logic? — Basic Concepts
  - Arguments, Premises, and Conclusions (building blocks of logic)
  - Validity, Soundness, and Strength (types of "goodness" of arguments)
  - Deductive *vs.* Inductive Arguments (two kinds of arguments)
  - Arguments *vs.* non-arguments (explanations, reports, etc.)
- Chapter 3: Fallacies — Not-so-good Reasoning
  - Formal (Logical) Fallacies (*logically* poor arguments)
  - Informal Fallacies (*empirically* poor arguments)
- Chapters 4–6: Some Formal Techniques of Deductive Logic
  - Syllogistic Logic and Venn Diagrams (chs. 4–5)
  - Propositional Logic and Truth Tables (ch. 6)

Getting Down to Business — Chapter 1

- What is Logic?
  - Logic is the science of arguments.
  - Logic tells us what makes arguments good or bad.
- What is an Argument?
  - Arguments are *not* debates, quarrels, or fights.
  - Arguments are groups of statements (*i.e.*, collections of of claims).
- What is a Statement?
  - Statements are declarative sentences.
  - Statements are sentences that are either true or false (but not both).
  - Statements are also called claims or propositions.
  - Statements are the basic building blocks of logic.

Statements and Truth Values

- The following sentences are *not* statements:
  - What is the atomic weight of Carbon? (question)
  - Let's go to the park today. (proposal)
  - We suggest that you travel by bus. (suggestion)
  - Turn to the left at the next corner. (command)
  - Holy crap! (exclamation)
- The following sentences *are* statements:

(1) Argentina is in North America. (statement)

(2) Broccoli is a good source of vitamin A. (statement)

- Statements have two possible truth values: true and false.
  - The truth value of statement (1) above is false.
  - The truth value of statement (2) above is true.

Arguments, Conclusions, and Premises I

- **Definition**. An argument is a set of statements, one of which is called the conclusion, and the remaining are called the premises. The premises are intended to provide *support* for (or *reasons to believe*) the conclusion.
- Simple example:

  All crimes are violations of law.
  Theft is a crime.
  Therefore, theft is a violation of law.

- The first two statements are the premises, the third is the conclusion.
- 'Therefore' is a conclusion indicator. There are many conclusion indicators:

therefore	accordingly	entails that	wherefore	we may conclude that
hence	thus	it must be that	it follows that	consequently
for this reason	implies that	we may infer	so	as a result

Arguments, Conclusions, and Premises II

- Sometimes there is no conclusion indicator in an argument:

  Expectant mothers should never use recreational drugs, since the use of these drugs can jeopardize the development of the fetus.

- 'Since' is a premise indicator. There are many premise indicators:

since	in that	seeing that	as indicated by
may be inferred from	for the reason that	because	for
as	given that	inasmuch as	owing to

- Sometimes an argumentative passage will contain no explicit indicators:

  The space program deserves increased expenditures in the years ahead. Not only does the national defense depend on it, but the program will more than pay for itself in terms of technological spinoffs. Furthermore, at current funding levels the program cannot fulfill its anticipated potential.

- What is the conclusion? What are the premises? How can you tell?

Arguments, Conclusions, and Premises III

- Sometimes passages contain window dressing or passing comments:

  Socialized medicine is not recommended because it would result in a reduction in the overall quality of medical care available to the average citizen. In addition, it might very well bankrupt the federal treasury. This is the whole case against socialized medicine in a nutshell.

- In this case, the last statement is a mere passing comment (or window dressing) that is neither a premise nor the conclusion of the argument being presented in the passage. Such statements are not part of the argument.

- Two factors are crucial for identifying arguments in passages:

  1. At least one statement must claim to present evidence (or reasons).
  2. There must be a claim that the alleged evidence supports or implies something — that is, that something follows from the alleged evidence.

Arguments, Conclusions, and Premises IV

- The premises are the *alleged* bearers of evidence or support, and the conclusion is that which is *claimed* to be supported by the premises.
- **It is not necessary that (i) the premises present actual evidence or true reasons *nor* that (ii) the premises actually support the conclusion**.
- Moreover, the claim of support can sometimes be *implicit* (no indicators).
- It is not always easy to determine if a passage contains an argument:

  Since Edison invented the phonograph, there have been many technological developments.

- Here, 'since' is used *temporally* **not** *logically*. This is no argument. But,

  Since Edison invented the phonograph, he deserves credit for a major technological development.

- This *is* an argument. What's the conclusion? What are the premises?

Arguments and Non-Arguments I: Explanations

- Does the following passage contain an argument?

  Women become intoxicated by drinking a smaller amount of alcohol than men (of comparable body weight) because men metabolize part of the alcohol before it reaches the bloodstream whereas women do not.

- As it turns out, both statements in this passage are true.[a] But, for a person who doesn't know either of these facts, the passage may seem like an *argument*.
- But, for someone who knows that women become intoxicated by drinking a smaller amount of alcohol than men, this might be taken to be an *explanation*.
- An explanation, like an argument, is a set of statements. But, the explanandum is not controversial, and the explanans are *not* intended to provide reasons to believe, but only to *explain why* (or how) the explanandum obtains.
- *Explaining why* something is true is different than *trying to establish* its truth.

[a] See http://www.niaaa.nih.gov/publications/aa35.htm for a more complete explanation.