

Logic Texts

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Texts for Philosophy 112

- The text for Philosophy 112 is *A Modern Formal Language Primer* (MFLP), by UC emeritus professor Paul Teller.
- MFLP was originally published in print.
- A scanned version is available on the Web.
- Most students in this class will have used as a text in Philosophy 12 *Language, Proof and Logic* (LPL) by Jon Barwise and John Etchemendy.
- These slides will highlight some of the differences between the two texts.

A Formal Language and its Dialects

- The subject-matter of Philosophy 112 is a *formal language*.
 - In MFLP (p. 2), this language is referred to as the language of ‘Predicate Logic’ (here, ‘PL’).
 - In LPL (p. 2), it is called the language of ‘first order logic’ or ‘FOL.’
- Aside from having different names, this language is expressed in different ways.
 - LPL calls the different expressions of the language ‘dialects.’
 - The difference between these ‘dialects’ lies “mainly in the choice of the particular symbols used to express the basic notions of the language” (LPL, p. 3).
- LPL uses “the dialect most common in mathematics” (LPL, p. 3).
- MFLP uses symbols more commonly used by philosophers in the twentieth century.

Sentence Logic

- In Volume I of MFLP, Teller formulates a language for what he calls “Sentence Logic.”
- The equivalent in LPL is called “Propositional Logic.”
- There are a number of “alternative notations” for the connectives, which are summarized on p. 197 of LPL.

LPL	MFLP
$\neg P$	$\sim P$
$P \wedge Q$	$P \& Q$
$P \vee Q$	$P \vee Q$
$P \rightarrow Q$	$P \supset Q$
$P \leftrightarrow Q$	$P \equiv Q$

Notation for Atomic Sentences

- There are notational differences in the expression of *atomic sentences*, the simplest sentences of the language.
- *Individual constants* are symbolized by various lower-case letters of the alphabet.
 - LPL: $a, \dots, f, n_1, n_2, \dots$
 - MFLP: $a, \dots, r, a_1, a_2, \dots, r_1, r_2, \dots$
- *Predicates* in LPL consist of English words or abbreviations of words, while MFLP uses capital letters.
 - LPL (examples): Cube, Smaller, Between
 - MFLP: $A, \dots, Z, A_1, A_2, \dots, Z_1, Z_2, \dots$
- Unlike MFLP, LPL places parentheses around individual constants and commas between them.
 - Between(a,b,c)
 - Babc