

**24.400**  
Proseminar in philosophy I

Fall 2003

*Language, Truth, and Logic*

1. Enlarge the punctures in the principle of verification, as explained in the main text of LTL. Does Ayer succeed in patching them up in the Introduction? (See the attached review by Church.) Is any kind of verificationism plausible?
2. (a) Are arithmetic and logic analytic?  
(b) Is it true that there is “no way of proving that the existence of a god, such as the God of Christianity, is even probable”?
3. “I can only know that *I* have personal experiences, not that anyone else has’.— Shall we then call it an unnecessary hypothesis that anyone else has personal experiences?— But is it an hypothesis at all?” What is Ayer’s answer?

“The Concept of Truth in Formalized Languages”

0. (a) Polish notation has no parentheses. The relative scopes of connectives and quantifiers is indicated instead by their order. Thus, using Tarski’s symbols for negation, disjunction, and universal quantification on pp. 168-70, ‘ $(\sim p) \vee q$ ’ is equivalent to ‘ANpq’, ‘ $\sim(p \vee q)$ ’ to ‘NApq’, ‘ $\forall x (Fx \vee \forall y (Gy))$ ’ to ‘ $\Pi xAFx\Pi yGy$ ’. Translate the following formulas into Polish notation, using only Tarski’s symbols for negation, disjunction, and universal quantification (and ‘F’, ‘x’, and so on):

$$\begin{aligned} &\forall x (Fx) \vee \forall y (Gy) \\ &\forall x (Fx \vee \sim(Gx)) \\ &\forall x (Fx \ \& \ Gx) \supset \exists y (Hy) \\ &\forall x \exists y (Fy \ \& \ (\sim(Gx) \supset Hy)) \end{aligned}$$

- (b) Using modern notation for the object language (e.g. ‘ $\vee$ ’ for ‘A’, ‘ $\forall$ ’ for ‘ $\Pi$ ’, ‘ $\subseteq$ ’ for ‘I’), what are the three axioms mentioned at the top of p. 183?
- (c) Using modern notation, rewrite Definition 10 using corner quotes.
4. What is a “semantical definition” of truth? What’s the (small) problem with (5) on p. 159? What’s the problem with (6), assuming the “customary way of using quotation marks”? Does Tarski have a good objection to defining truth (i.e. ‘true sentence (of *L*)’) using substitutional quantification and “quotation-functions”?

5. Explain the content and significance of Definition 22.