

Predication in the Logic of Terms

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Abstract The paper contrasts modern predicate logic (MPL) and term/functor logic (TFL) on predication. A predication in TFL consists of two terms and a "logical copula" that has formal properties such as symmetry or transitivity. The I-functor in ' PiS ' (the old form of '(some) S is P ') is symmetrical, behaving like the plus sign of high school algebra; TFL transcribes ' PiS ' as ' $P + S$ '. The transitive A-functor in ' PaS ' (every S is P) is minus-like: ' $P - S = -((-P) + S)$ ' represents the equivalence of ' PaS ' to 'not $((-P)iS)$ '. In propositional logic ' $q + p$ ' transcribes ' $p \& q$ ' and ' $q - p$ ' transcribes ' q if p '; thus ' $q - p = -((-q) + p)$ ' is the algebraic form of ' $p \rightarrow q = -(p \& (-q))$ '. TFL applies to relational statements of any complexity. E.g., to show the inconsistency of 'every A is B and something R to an A is not R to a B ' we add ' $-(R + B) + (R + A)$ ' to ' $B - A$ ' to get the contradiction ' $-(R + B) + (R + B)$ '. The predicative functors are shown to give TFL a slight advantage over MPL in expressive and inference power when dealing with singular statements.

The copula has no place in the language of modern logic. It will be shown that a significant price in the hard currency of inference power is being paid because of its absence. A properly formulated term logic, extended to handle relational inference, is both syntactically simpler and inferentially more powerful. But, historically, term logic took a wrong turn and we begin with that.

I Traditional syllogistic logic with its A, E, I, and O classification of categorical statements has a distinctive syntax that was not properly understood by its practitioners. Confusion arose because most syllogists favored a parsing of

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