

ON PROSLEPTIC PREMISSES

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1 A prosleptic premiss is a proposition of the form

for all x : if ϕx then ψx ,

with ' ϕx ' and ' ψx ' standing as abbreviations for any of the four categorical propositions, in which the bound variable ' x ' may occur in the place of the subject or in that of the predicate. Thus, if we want to be more specific, we can say that a prosleptic premiss exhibits one of the following four forms:

for all x : if $a R x$ then $x S b$
 for all x : if $a R x$ then $b S x$
 for all x : if $x R a$ then $x S b$
 for all x : if $x R a$ then $b S x$.

In these formulae ' R ' and ' S ' stand for any of the four functors which form categorical propositions. If we represent these functors in the traditional way with the aid of the letters ' A ', ' E ', ' I ', and ' O ', then the 64 different prosleptic premisses can be tabulated as on page 2.

According to tradition a systematic study of prosleptic premisses was initiated by Theophrastus. The position of the bound variables in a prosleptic premiss suggested to Theophrastus the division of prosleptic premisses into figures. Following the example of Aristotle he distinguished three figures, corresponding to columns I, II, and III in the table given on the following page. It is quite likely that prosleptic premisses in column IV were regarded by Theophrastus as belonging to the first figure together with the prosleptic premisses listed in column I. In fact, given the laws of the square of opposition, they can easily be shown to be converses of appropriate propositions in column I. Prosleptic premisses give rise to prosleptic syllogisms, which are inferences of the form

$$\frac{\text{for all } x: \text{ if } \phi x \text{ then } \psi x}{\phi a} \\ \text{therefore: } \psi a,$$