A more general objection to the metalinguistic solution

Can identity statements be analyzed metalinguistically? I.e., can:

(1) $a = b$

be analyzed as:

(2) '*a*' and '*b*' are co-referential

Objection: the notion of co-referentiality presupposes that of identity. This can be shown as follows.

Where *S* is a sign, let '*Des* (*S*)' abbreviate 'the designation of *S*' or 'the object designated by *S*'.

Then (2) amounts to:

(3) *Des* ('*a*') and *Des* ('*b*') are one and the same thing.

But what does (3) mean? Here are two possibilities:

(4) *Des* ('*a*') = *Des* ('*b*')
(5) '*Des* ('*a*')' and '*Des* ('*b*')' are co-referential.

But (4) involves **objectual** identity. So we must choose (5). But what does (5) mean? Again, two choices:

(6) *Des* ('*Des* ('*a*')') = *Des* ('*Des* ('*b*')')
(7) '*Des* ('*Des* ('*a*')')' and '*Des* ('*Des* ('*b*')')' are co-referential.

But (6) involves **objectual** identity, and (7) reinvites the same analysis, *ad infinitum*.

Hence we cannot avoid objectual identity without facing an infinite regress.