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## **Title:** Definite Descriptions in Positive Free Logic and a New Theory of Definite Descriptions based on Proof Theoretic Considerations

**Abstract:** Many free logicians, following Lambert and Hintikka, have favoured positive over negative free logic. After a brief reminder of the difference between the two versions of free logic, I'll present the rules for the iota operator for definite descriptions. They differ slightly in the two versions. Elsewhere showed that deductions in negative free logic with definite descriptions normalise. Here I will show that this counts for positive free logic with definite descriptions, too, but the proof is much simpler and more straightforward. The rules for the iota operator suitable to positive free logic are anomalous from the proof theoretic perspective: they do not satisfy the converse of harmony (what Dummett calls stability). In a nutshell, an existence premise that is required to deduce ixF=t by the introduction rule for the iota operator cannot be inferred from this formula by an elimination rule. This may speak in favour of negative free logic from a proof theoretic perspective. But it also suggests dropping this premise from the introduction rule, which results in a new theory of definite descriptions motivated purely by proof theoretic considerations relating to harmony and stability. The resulting theory raises some interesting questions.