

## Objects and Existence: Reflections on Free Logic

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**Abstract** It is usual in free logic to regard free variables and constants as alike, and to distinguish them semantically from bound variables. In the present treatment, by contrast, variables are handled uniformly, while individual constants are regarded as surface artifacts to be fleshed out for deep-structure predicate constructions. Philosophical reasons are presented to support this interpretation; and the logical construction is described informally. The main idea involves a threefold refinement of Quine's Russellian treatment of proper names. First, the existence clause is eliminated. Second, uniqueness is made a formal aspect of the symbolization of singular predicates. Third, no scope distinction is marked in the surface structure, as with Russell's iota-notation, so that, although a sentence involving a singular term might be read in different ways, corresponding to a difference in the way scope is reckoned, the sentence is treated in the logic as if that scope is unknown.

Singular existence claims pose a significant problem for the view that 'exists' is a first-order predicate. It is widely believed that if 'exists' is a first-order predicate, then a sentence like 'Neptune exists', if meaningful at all, must express a necessary truth, or perhaps a trivial truth, but it certainly is not a substantial astronomical discovery. Frege thought so.<sup>1</sup> Russell did too. This belief, however, is incorrect, and Russell's strategy of analyzing an apparent subject expression as a deep structure predicate construction is sufficient to demonstrate this. As long as we deny that the surface 'grammatical' subject of an informative singular existence claim is also its deep 'logical' subject—as with Russell's construction for definite descriptions and Quine's modification for proper names—we can maintain the view that 'exists' is a legitimate first-order predicate.

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\*The preparation of this paper was supported in part by PSC/CUNY grant #664078, for which I am grateful. An early version was read at the CUNY Graduate Center. I am grateful to the participants for their helpful comments and criticisms.

*Received April 30, 1987; revised January 18, 1988*