# A COMPLETE SYSTEM OF INDEXICAL LOGIC

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In most logical systems, the interpretation of a term or formula does not depend on a situation or context of discourse. In particular, there are no temporal contexts since all sentences are formulated in what seems to be an eternal present tense. Suppose, however, that terms and formulas with terms as situational indices as well as ordinary terms and formulas are present in a first-order logic with identity, descriptions, and no existence assumptions. Suppose also that intensional constants such as those of tense and modal logics are present as nonlogical constants so as to make possible the concise expression of certain relationships among situations. How can such a broad kind of language be formalized? What kind of semantic theory can interpret it? And what kind of logic is determined by such a semantic theory? One set of solutions to these problems is presented here.*

In the literature, the most closely related systems seem to be the "topological" logics. There, rules and interpretations for sentential formulas indexed with individual constants and first-order variables have been investigated. However, a full first-order logic and semantics of even standard type for indexing with only individual constants and variables seem to have escaped explicit formulation. For a survey of the subject, the reader is referred to Rescher and Urquhart [9]. A recent study in the area is Garson [6].

The system and semantics of the present study are also pragmatic and intensional in the sense of Montague's [7] and [8]. Although Montague has developed appropriate semantic theories in these papers and has been matched analogously by Scott in [14], no full deductive system of pragmatics or full intensional logic seems to have been published before. However,

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