THE ANCESTRAL RELATION WITHOUT CLASSES

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This paper[1] is an exploration of two alternative analyses of the ancestral relation. One reason for undertaking this exploration is that concern with the ancestral relation dates from the very beginnings of modern logic. A long tradition of logicians have explicated the ancestral relation in terms of classes. This tradition dates at least from Gottlob Frege's *Begriffsschrift* of 1879[2], and is to be found in the writings of C. S. Peirce, Richard Dedekind, and continues down through the 1972 edition of W. V. Quine's *Methods of Logic*.[3] In Quine's view the introduction of quantification over classes brings with it a new power of expression, which in the present instance is displayed by the ability it gives one to translate the schema 'x is an ancestor of y'. The translation that Quine gives of 'x is an ancestor of y' is 'x is a member of every class which contains y and all parents of members'. One task of this paper is to examine the character of this translation. It is seen that this translation is at best an explication or rational reconstruction, in that Professor Quine's translation of this relational term tells us something which need not at all have been obvious to one that understood the definiendum, namely, that x is thus asserted to be a member of many larger classes than just the classes of y's ancestors. The constructive portion of this paper proposes a new explication of the ancestral relation, which lacks the defect just noted in the traditional definition. The new explication is developed in terms of a relation called "generational removal". The concept of this relation is developed in such

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