

THE PHILOSOPHICAL REVIEW

NOTES ON LEIBNIZ' CONCEPTION OF LOGIC AND ITS HISTORICAL CONTEXT

THE history of science has to distinguish and yet to relate the logical structure of the sciences and the social changes that affect the interests and thought-processes of scientists. Logic is a science in which great changes have been made since and despite Kant's prediction that there was no further perfection possible in formal logic. Ignorant of the import of Leibniz' extension of traditional Aristotelian logic beyond the syllogism, Kant minimized the value of analytic truths and regarded formal logic as unproductive of new knowledge whereas mathematics was synthetic and productive. His resort to psychological categories in his *Transcendental Analytic* in order to show the possibility of mathematics left the gap between logic and mathematics untouched.¹ The post-Kantian philosophers, with the exception of Bolzano and his followers, whether idealistic or materialistic, continued to neglect the algebra of formal logic. It was the British mathematicians, Gregory, Peacock, DeMorgan, and Boole, who, in the nineteenth century, revived Leibniz' program of a general logic and made it worthy of philosophical consideration again today.²

Although Russell and Couturat³ have adequately demonstrated that the logic of Leibniz determined the internal structure of his metaphysics, neither was concerned with the historical and social background of Leibniz' new conception of logic.

Leibniz himself more than once actually identified the basis of his new logic (universal characteristic) with that of metaphysics

¹ Kant, *Introduction to Logic* (Abbott tr.) 10: "It is not an algebra."

² G. Vailati, *Scritti*, CXXXVIII: "Sul carattere del contributo apportato da Leibniz allo sviluppo della Logica Formale", 619-624.

³ B. Russell, *Critical Exposition of the Philosophy of Leibniz*, 1900, second ed. 1938. L. Couturat, *La Logique de Leibniz d'après des documents inédits*, 1901, preface, X: "la métaphysique de Leibniz repose uniquement sur les principes de sa logique et en procède tout entière."