

SIMPLE IMPLICATIONAL DEVELOPMENT

IVO THOMAS

Generalization of Meredith's route in [1] from 1 and 2 below to Łukasiewicz's shortest implicational axiom gives an extremely quick and perspicuous development of these axioms in other directions. We obtain, for example, the Bernays axioms 8-10.

1. $CCCpqrCCrpp$ 2. $CCqrCqCpr$ DD11D21 = 3. $CpCCpqq$ D1D13 = 4. $CCpCCCprqqCCCprqq$ $MC\alpha\beta =_{df} D1D4D2C\alpha\beta = CC\beta C\alpha\pi C\alpha\pi$ (π a variable not in α, β) $SC\alpha\beta C\beta\gamma =_{df} DMC\alpha\beta D2C\beta\gamma = C\alpha\gamma$ S24 = 5. $CCpqCCCprqq$ S51 = 6. $CCpqCCqCprCpr$ S2M2 = 7. $CCCqCprCCqrs$ S67 = 8. $CCpqCCqrCpr$ D4S31 = 9. $CCCpqpp$ S3D29 = 10. $CpCqp$

Of course $S12 = CCCpqrCCrpCsp$ (Łukasiewicz), and $S3S2MC\alpha C\beta\gamma = C\beta C\alpha\gamma$ could be useful for other developments.

REFERENCE

- [1] Meredith, C. A., and A. N. Prior, "Notes on the axiomatics of the propositional calculus," *Notre Dame Journal of Formal Logic*, vol. IV (1963), pp. 171-187.

University of Notre Dame
Notre Dame, Indiana

Received October 15, 1974