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SIMPLE IMPLICATIONAL DEVELOPMENT

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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. $CCqrCqCpr$

DD11**D**21 = 3. $CpCCpqq$

D1**D**13 = 4. $CCpCCCprqqCCCprqq$

M$C\alpha\beta =_{df}$ **D**1**D**4**D**2$C\alpha\beta = CC\beta C\alpha\pi C\alpha\pi$ (π a variable not in α, β)

S$C\alpha\beta C\beta\gamma =_{df}$ **DM**$C\alpha\beta$**D**2$C\beta\gamma = C\alpha\gamma$

S24 = 5. $CCpqCCCprqq$

S51 = 6. $CCpqCCqCprCpr$

S2**M**2 = 7. $CCCqCprsCCqrs$

S67 = 8. $CCpqCCqrCpr$

D4**S**31 = 9. $CCCpqpp$

S3**D**29 = 10. $CpCqp$

Of course **S**12 = $CCCpqrCCrpCsp$ (Łukasiewicz), and **S**3**S**2**M**$C\alpha C\beta\gamma = C\beta C\alpha\gamma$ 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.

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