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Bradley Armour-Garb
SUNY Albany
Frederick Kroon
The University of Auckland

LOGICAL CONSEQUENCE

Gila Sher
University of California, San Diego

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Gila Sher
University of California, San Diego

Author for correspondence: Gila Sher, gsher@ucsd.edu

Abstract: To understand logic is, first and foremost, to understand logical consequence. This Element provides an in-depth, accessible, up-to-date account of and philosophical insight into the semantic, model-theoretic conception of logical consequence, its Tarskian roots, and its ideas, grounding, and challenges. The topics discussed include: (i) the passage from Tarski's definition of truth (simpliciter) to his definition of logical consequence; (ii) the need for a non-proof-theoretic definition; (iii) the idea of a semantic definition; (iv) the adequacy conditions of preservation of truth, formality, and necessity; (v) the nature, structure, and totality of models; (vi) the logicality problem that threatens the definition of logical consequence (the problem of logical constants); (vii) a general solution to the logicality, formality, and necessity problems/challenges based on the isomorphism-invariance criterion of logicality; (viii) philosophical background and justification of the isomorphism-invariance criterion; and (ix) major criticisms of the semantic definition and the isomorphism-invariance criterion.

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