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**Consequences, Grounding and Design in the Logic of Modernity**

*Abstract:* Alfred Tarski has famously distinguished between formal and material consequences. Tarski’s distinction essentially differs from the scholastic dichotomy of *consequentia formalis* and *consequentia materialis*. This talk focuses on the ontology of formal and material consequences and their relation to the grounding and design in some logical doctrines of modernity. It endeavours to reveal in these doctrines several paths of mediation between the ontological grounds of medieval logic, on the one hand, and model-theoretical and proof-theoretical approaches in the 20th century logic, on the other hand.

It is now customary to distinguish between Parisian and English traditions in interpreting the dichotomy of formal and material consequences in 14th century logic. The first tradition (e.g., John Buridan, Albert of Saxony, Marsilius of Inghen) holds that a consequence is formal if it is invariant under all substitutions for its categorematic terms. According to the second tradition (e.g., Richard Billingham, Robert Fland, Ralph Strode, Richard Lavenham), the understanding of the antecedent of a formal consequence should contain the understanding of the consequent. Thus, English tradition appeals to the psychologically loaded category of understanding rather than syntactic structures or semantic variations. Does this mean that the English Scholastics psychologized the formal consequence? I am going to suggest that the idea of the formal understanding grounds formality not only on our power of understanding, i.e. intelligibility or imaginability, but also on ontology, i.e. on internal (formal, transcendental) relations which unite the two terms of the judgement due to the very nature of these terms. For Scholastics, internal relations are expressed by the eternal truths rooted not in the real but in potential being.

René Descartes argues, however, that the distinction between the real and the potential is limited to things that fall within our understanding. Considering deduction as an ordered sequence of intuitions, he did not treat reasoning about what is real or potential as a right way to justify it. According to Immanuel Kant, general logic deals only with the possible, i.e., with what is consistent within the formal conditions of experience, while transcendental logic should correct and secure the power of judgement. Nevertheless, the hypothesis that Kant’s logical taxonomy attempted to reconcile the substitutional interpretation of formal consequences, dating back to Parisian medieval, and a formal analysis of the transcendental relations of objects of experience is oversimplified. Following Luciano Floridi (2017), I suggest considering transcendental logic not as a system of consequences equipped with ontologically grounded transcendental limitations, but rather as inherited from modernity logic of *design*. In contrast, according to an enduring interpretation (van Benthem, 1985), Bernard Bolzano's use of various types of consequence anticipates Tarski's *model-theoretical* definition of formal consequence. For Bolzano, all types of consequence are formal in a broad sense, therefore his approach does not concern the dichotomy between formal and material consequences. However, his concept of *grounding* may contribute to non-psychological, i.e. *proof-theoretical* perspective (Prawitz 2009; Fine, 2012) on formal understanding in consequences.

*Keywords:* material consequence, formal consequence, internal relation, grounding, design.