▸ CAROLINA BLASIO, CARLOS CALEIRO and JOÃO MARCOS,*On B-entailment.*
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The received notions of logical consequence, either introduced by semantical means or by way of some proof formalism, or even studied in their own right as abstract relations/operations between sentences or collections of sentences, are often explicated in terms of standard judgments such as assertion and refutation/denial. As a matter of fact, from the semantical viewpoint such judgments are often confused with truth-values. For a fresh view on the matter, we propose substituting judgments by a richer collection of cognitive attitudes concerning acceptance or rejection, by an agent, of a given piece of information, and organize such attitudes into an opposition structure from which we show how to extract a generous four-place notion of entailment, henceforth called B-entailment, that generalizes the well-known approaches by Tarski and by Shoesmith & Smiley ([5]). We study and prove a general characterization result about the underlying abstract consequence relations in terms of a bilattice-based structure of truth-values, show that it extends earlier results by G. Malinowski and S. Frankowski ([4, 3]), and show how this connects to recent research on the structure of truth-values ([6]). Finally, we prove a normal form result that shows how the B-entailment formalism is expressive enough so as to define any 4-valued (partial) nondeterministic matrix ([1, 2]).

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