

THE CONFIRMATION OF SENTENCES BY INSTANCES WITH
 DIFFERENT TRUTH-VALUES OF ITS ATOMS

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For the last few decades a long discussion has been carried on that questions whether general (quantified) sentences G are confirmed (or, as the case may be, refuted) by all individual sentences asserting the truth or falsity of all predicates of G for some individual. Formally: if G contains the one-place predicates P_1, \dots, P_n , and only these predicates, then any sentence $\bigcap_{i=1}^n t_i P_i(a)$, in which t_i is \neg or the absence of any symbol, is an individual sentence relevant for G . Any $t_i P_i(a)$ is called a *conjunct* in it. Many people have been puzzled by the fact that, in many instances, some individual sentences i_1 relevant for G intuitively seem to confirm G and other relevant sentences i_2 intuitively do not seem to confirm G , though according to formal logic both i_1 and i_2 are in agreement with G .

In this paper a *quantitative* concept of confirmation is employed, but I shall not attempt to give criteria for the calculation of a *numerical* value of the degree of confirmation. I shall only explore whether one given sentence is more or less confirmed by several molecular sentences. A calculus for the assignment of numerical values to confirmations may then be evaluated against these findings.

A much-cited example is "All ravens are black." It seems that this sentence is confirmed by instances of black ravens, but that instances of not-black non-ravens are irrelevant for this sentence. Some authors, e.g., Janina Hosiasson-Lindenbaum, *cf.* [2], have tried to escape this paradox by the assumption that, in principle, not-black non-ravens and black non-ravens also confirm the sentence "All ravens are black," but in a far lower degree, in virtue of the fact that, among "all things in the Universe," there are far more non-ravens than ravens, and far more not-black things than black things. This, in turn, is due to the fact that speakers generally introduce words in a language for such predicates, and that there are far more things to which they do not apply than things to which they do apply.

Most publications restrict the discussion to sentences with two predicates. Though they do not pronounce this principle explicitly, the