

Refutation that Strawson's presupposition is different from Russell's entailment

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Abstract: Strawson's presupposition and Russell's entailment are of the same form, equivalent, and hence not different. These conjectures form a tautologous fragment of the universal logic VL4.

We assume the method and apparatus of Meth8/VL4 with Tautology as the designated proof value, **F** as contradiction, **N** as truthity (non-contingency), and **C** as falsity (contingency). The 16-valued truth table is row-major and horizontal, or repeating fragments of 128-tables, sometimes with table counts, for more variables. (See ersatz-systems.com.)

LET ~ Not, ¬; + Or, ∨, ∪, ⊔; - Not Or; & And, ∧, ∩, ⊓, ; \ Not And;
 > Imply, greater than, →, ⇒, ⇨, >, ⊃, ≻; < Not Imply, less than, ∈, <, ⊂, ⊆, ≪, ≲;
 = Equivalent, ≡, :=, ⇔, ↔, ≐, ≈, ≃; @ Not Equivalent, ≠;
 % possibility, for one or some, ∃, ∅, M; # necessity, for every or all, ∀, □, L;
 (z=z) **T** as tautology, **T**, ordinal 3; (z@z) **F** as contradiction, ∅, Null, ⊥, zero;
 (%z>#z) **N** as non-contingency, Δ, ordinal 1; (%z<#z) **C** as contingency, ∇, ordinal 2;
 ~(y < x) (x ≤ y), (A=B) (A~B).

Note for clarity, we usually distribute quantifiers onto each designated variable.

From: Cohen, S.M. (2008). Strawson: "On Referring".
faculty.washington.edu/smcohen/453/StrawsonDisplay.pdf smcohen@uw.edu

The difference between entailment and presupposition:

Russell's view, that (1) entails (2), means:

(1) cannot be true unless (2) is true. If (2) is false, (1) is false. (1.1)

LET p, q: (2), (1)

(q>p)+(~q>~p); TTTT TTTT TTTT TTTT (1.2)

Strawson's view, that (1) presupposes (2), means:

(1) cannot be true or false unless (2) is true. If (2) is false, (1) is neither true nor false. (2.1)

(q>~(p+~p))+(~q>~(p+~p)); TTTT TTTT TTTT TTTT (2.2)

Remark 1: Entailment is mapped using the implication connective with the consequent and antecedent reversed in order, as it were. For example, (1) entails (2) is (2) implies (1).

Remark 2: If p equals (p or (p or not p)) and q equals (q or (q or not q)), then we test if Eqs. 1.2 and 2.2 are equivalent. (3.1)

((p=(p+(p+~p)))&(q=(q+(q+~q)))>(((q>p)+(~q>~p))=((q>~(p+~p))+(~q>~(p+~p))))); TTTT TTTT TTTT TTTT (3.2)

This means that Russell's and Strawson's views as rendered are of the same form, and hence entailment and presupposition are equivalents as one in the same.