Refutation of the Hrushovski construction, to confirm Lachlan and Zil'ber

Abstract: A condition for the Hrushovski construction is *not* tautologous, refuting it. This also denies alleged refutations using it, namely, to confirm the Lachlan conjecture and Zil'ber conjecture. The construction forms a *non* tautologous fragment of the universal logic VŁ4.

We assume the method and apparatus of Meth8/VŁ4 with `T`autology 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, ⊤, ordinal 3; (z@z) **`F`** as contradiction, Ø, Null, ⊥ , zero;
(%z>#z) `N` as non-contingency, Δ, ordinal 1; (%z<#z) `C` as contingency, ∇, ordinal 2;
~(y < x) (x ≤ y), (x ⊆ y), (x ⊑ y); (A=B) (A~B).
Note for clarity, we usually distribute quantifiers onto each designated variable.

From: en.wikipedia.org/wiki/Hrushovski_construction

The construction

Let *L* be a finite relational language. Fix **C** a class of *finite L*-structures which are closed under isomorphisms and substructures. We want to strengthen the notion of substructure; let ≤ be a relation on pairs from **C** satisfying:

A⊆B⊆C and A≤C implies A≤B (1.1)

LET p, q, r: A, B, C.

~(r<~(q<p))&(~(r<p)>~(q<p)) ; `TT`**`F`**`T TT`**`F`**`T TT`**`F`**`T TT`**`F`**`T` (1.2)

~(C<~(B<A))&(~(C<A)>~(B<A)) ; `TTTT NTNT CCTT `**`F`**`CNT` (1.3)

Eqs. 1.2 and 1.3 as rendered are *not* tautologous, refuting the Hrushovski construction. This denies refutations using it, namely, to confirm the Lachlan conjecture and Zil'ber conjecture.