

Refutation of saturated free algebras (revisited) and almost indiscernible theories

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Abstract: We evaluate two papers as probabilistic vector spaces with *no* bivalent basis, *non* existence, and *no* meaning. This refutes saturated free algebras and “almost indiscernible theory”, forming a *non* tautologous fragment of the universal logic VŁ4.

We assume the method and apparatus of Meth8/VŁ4 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 \sim Not, \neg ; + Or, \vee , \cup , \sqcup ; - Not Or; & And, \wedge , \cap , \square , \cdot , \otimes ; \ Not And;
> Imply, greater than, \rightarrow , \Rightarrow , \mapsto , \succ , \supset , \rightarrow ; < Not Imply, less than, \in , $<$, \subset , \prec , \neq , \ll , \lesssim ;
= Equivalent, \equiv , $:=$, \Leftrightarrow , \leftrightarrow , \triangleq , \approx , \cong ; @ Not Equivalent, \neq , \oplus ;
% possibility, for one or some, \exists , \diamond , **M**; # necessity, for every or all, \forall , \square , **L**;
(z=z) **T** as tautology, **T**, ordinal 3; (z@z) **F** as contradiction, \emptyset , Null, \perp , zero;
(%z>#z) **N** as non-contingency, Δ , ordinal 1; (%z<#z) **C** as contingency, ∇ , ordinal 2;
 $\sim(y < x)$ ($x \leq y$), ($x \subseteq y$), ($x \sqsubseteq y$); (A=B) (A \sim B).
Note for clarity, we usually distribute quantifiers onto each designated variable.

From: Pillay, A.; Sklinos, R. (2014, 2018). Saturated free algebras revisited. arxiv.org/pdf/1409.8604.pdf

Abstract We give an exposition of results of Baldwin-Shelah .. on saturated free algebras, at the level of generality of complete first order theories T with a saturated model M which is in the algebraic closure of an indiscernible set. We then make some new observations when M is a saturated free algebra, analogous to (more difficult) results for the free group, such as a description of forking.

From: Kucera, T.G.; Pillay, A. (2019). Almost indiscernible theories and saturated free algebras. arxiv.org/pdf/1908.02712.pdf

Abstract We extend the concept of “almost indiscernible theory” introduced by Pillay and Sklinos in arxiv.org/pdf/1409.8604.pdf (which was itself a modernization and expansion of Baldwin and Shelah ..), to uncountable languages and uncountable parameter sequences. Roughly speaking T is almost indiscernible if some saturated model is in the algebraic closure of an indiscernible set of sequences. We show that such a theory T is nonmultidimensional superstable, and stable in all cardinals $\geq |T|$. We prove a structure theorem for sufficiently large a -models M : Theorem 2.10 which states that over a suitable base, M is in the *algebraic closure* of an independent set of realizations of weight one types (in possibly infinitely many variables). We also explore further the saturated free algebras of Baldwin and Shelah in both the countable and uncountable context. We study in particular theories and varieties of R -modules, pointing out a counterexample to a conjecture from Pillay-Sklinos.

We evaluate the above papers as probabilistic vector spaces with *no* bivalent basis, *non* existence, and *no* meaning. This refutes saturated free algebras and “almost indiscernible theory”.