

Refutation of the Cabannas conjecture of objectivity

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Abstract: We evaluate the 13 atomic equations, with none tautologous. This refutes the Cabannas conjecture of objectivity, forming a *non* 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 \sim Not, \neg ; + Or, \vee , \cup , \sqcup ; - Not Or; & And, \wedge , \cap , \sqcap , $;$; \ Not And;
 $>$ Imply, greater than, \rightarrow , \Rightarrow , \mapsto , $>$, \supset , \rightsquigarrow ;
 $<$ Not Imply, less than, \in , $<$, \subset , \varsubsetneq , \neq , \leq ;
 $=$ Equivalent, \equiv , $:=$, \Leftrightarrow , \leftrightarrow , \triangleq , \approx , \simeq ; @ Not Equivalent, \neq ;
 $\%$ possibility, for one or some, \exists , \diamond , M ; # necessity, for every or all, \forall , \square , L ;
 $(z=z)$ **T** as tautology, \top , 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;
 $\sim(y < x)$ ($x \leq y$), ($x \subseteq y$); $(A=B)$ ($A\sim B$); $(B>A)$ ($A\vdash B$); $(B>A)$ ($A\neq B$).
 Note for clarity, we usually distribute quantifiers onto each designated variable.

From: Cabannas, V. (2016). Theory of objectivity. vixra.org/pdf/1904.0536v1.pdf
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The universe, of course, represents everything that exists. So, if there was Nothing before the universe existed, a unit could be added to Nothing (n) and it would remain Nothing ($n + 1$).
 (3.1)

LET p , $\sim\#p$:
 p , Nothing [not every thing], **N**, n ;
 $(\%s\>\#s)$ ordinal 1; $(\%s\<\#s)$ ordinal 2; $(s@s)$ zero.

$$p+(\%s>s) ; \quad \text{NTNT NTNT TTTT TTTT} \quad (3.2)$$

A unit could also be subtracted from Nothing and it would remain Nothing ($n - 1$).
 (4.1)

$$p-(\%s>s) ; \quad \text{CFCF CF CF FFFF FFFF} \quad (4.2)$$

We then have the following, considering $n = 0 = \text{Nothing}$:
 (5.1)

$$(p=(s@s))= p ; \quad \text{FFFF FFFF FFFF FFFF} \quad (5.2)$$

Remark 5.1: The author may mean to write ($n=0$) and ($0=\text{Nothing}$).
 (6.1)

$$(p=(s@s))\&((s@s)=p) ; \quad \mathbf{TFTF \ TFTF \ TFTF \ TFTF} \quad (6.2)$$

which is a strengthening of Eq. 5.1.

$$N + 1 = n - 1, \quad \text{i.e, (3.2)=(4.2)} \quad (7.1)$$

$$(p+(\%s>\#s))=(p-(\%s>\#s)) ; \quad \mathbf{FFFF \ FFFF \ FFFF \ FFFF} \quad (7.2)$$

$$N - n = -1 - 1, \quad (8.1)$$

$$(p-p)=(\sim(\%s>\#s)-(\%s>\#s)) ; \quad \mathbf{FTFT \ FTFT \ FTFT \ FTFT} \quad (8.2)$$

Remark 8.1: The author may mean to write $N-n=((\sim 1)+(\sim 1))$; (9.1)

$$(p-p)=(\sim(\%s>\#s)+\sim(\%s>\#s)) ; \quad \mathbf{CNCN \ CNCN \ CNCN \ CNCN} \quad (9.2)$$

which is a strengthening of Eq. 8.2.

$$0 = -2; \quad (10.1)$$

$$(s@s)=\sim(\%s<\#s) ; \quad \mathbf{CCCC \ CCCC \ CCCC \ CCCC} \quad (10.2)$$

$$\text{Or, reversing equality: } N - 1 = n + 1, \quad \text{i.e, (8.1)} \quad (11.1)$$

$$(p-(\%s>\#s))=(p+(\%s>\#s)) ; \quad \mathbf{FTFT \ FTFT \ FTFT \ FTFT} \quad (11.2)$$

$$N - n = 1 + 1, \quad (12.1)$$

$$(p-p)=((\%s>\#s)+(\%s>\#s)) ; \quad \mathbf{NCNC \ NCNC \ NCNC \ NCNC} \quad (12.2)$$

$$0 = 2. \quad \text{i.e, Not(10.1)} \quad (13.1)$$

$$(s@s)=(\%s<\#s) ; \quad \mathbf{NNNN \ NNNN \ NNNN \ NNNN} \quad (13.2)$$

That is, the equation has two possible solutions: -2 and +2, i.e, (8.1) and (12.1): (14.1)

$$((p-p)=(\sim(\%s>\#s)-(\%s>\#s)))\&((p-p)=((\%s>\#s)+(\%s>\#s))) ; \quad \mathbf{FCFC \ FCFC \ FCFC \ FCFC} \quad (14.2)$$

Remark 14.1: If the author meant to write -2 or +2, i.e, (8.1) or (12.1): (15.1)

$$((p-p)=(\sim(\%s>\#s)-(\%s>\#s)))+((p-p)=((\%s>\#s)+(\%s>\#s))) ; \quad \mathbf{NTNT \ NTNT \ NTNT \ NTNT} \quad (15.2)$$

which is a strengthening of Eq. 14.1.

We evaluated 13 equations, with none tautologous. This refutes the Cabannas conjecture of objectivity at its most atomic level.