Mistakes in rebuttal of Refutation of the simulation argument and incompleteness of information

Abstract: We evaluate six equations proffered as rebuttal, with two as trivially tautologous and four as *not* tautologous, to confirm the original refutation of the simulation conjecture. These results add to this established *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   ~ 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, ∅, 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: Goyal, S. (2019). Refutation of "Refutation of the simulation argument and incompleteness of information". vixra.org/pdf/1906.0126v1.pdf [no email]

> **Remark 0:** This matter could not be disposed of off-line because the author does not publish an email address, and the Disqus forum used by vixra dot org does not support mathematical logic. (In the original paper at vixra.org/pdf/1906.0090v1.pdf, a typo was subsequently fixed in v.2 with no result change.)

… when 'r' is true, '%r\r' must be true as well.   (1.1)

r>(%r\r) ;   TTTT **FFFF** TTTT **FFFF**   (1.2)

> **Remark 1.2:** This could also be mapped as (r=(s=s))>(%r\r) with the same result, namely that when 'r' is true, '%r\r' is *not* true as well, and an equivalent expression to Eq. 6.2 below. Obviously, r=(%r\r) is contradictory with result of all **F**'s.

If 'r' is true, then '%r',   (2.1)

r>%r ;   TTTT TTTT TTTT TTTT   (2.2)

> **Remark 2.2:** This is so because of the non-constructive form as **F** implies **F** is `T`.

which means 'possibility of r', is also true.   (3.1)

%r=(s=s) ;   CCCC TTTT CCCC TTTT   (3.2)

> **Remark 2.1-3.1:** We write this as (if r, then possibility of r) implies (possibility of r).
>   (4.1)

$$(r{>}\%r){>}\%r \; ; \qquad\qquad\qquad \texttt{CCCC TTTT CCCC TTTT} \qquad\qquad (4.2)$$

Considering both 'r' and '%r' are true, '%r\r' evaluates to false. (5.1)

$$((r\&\%r){=}(s{=}s)){>}((\%r\backslash r){=}(s@s)) \; ;$$
$$\texttt{TTTT TTTT TTTT TTTT} \qquad\qquad (5.2)$$

Remark 5.2: This is so for the same reason as in Rem. 2.2 above.

Because 'R exists|We live in R' and '%r\r', both evaluate to different logical values (when 'r' is true), (6.1)

Remark 6.1: We note that both of the because-clauses above are identical with the pipe symbol taken as the division operator / in arithmetic. Hence we map this as:

$$(r{=}(s{=}s)){>}((\%r\backslash r)\,\&(\%r\backslash r)) \; ; \quad \texttt{TTTT }\textbf{\texttt{FFFF}}\texttt{ TTTT }\textbf{\texttt{FFFF}} \qquad (6.2)$$

they are not tautologous and thus, refutation of the original paper by James III appears to be invalid.

Eq. 6.2 as rendered is *not* tautologous, meaning the identical clause(s) evaluate to the same logical value if r is true, that logical value is *not* tautologous, and hence confirming the original refutation of the simulation conjecture as *not* tautologous.