A defense of critique of the simulation argument and critique of VŁ4 as applied

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Abstract: Colin James III critiqued the paper titled "Refutation of "Refutation of the simulation argument and incompleteness of information" [Goyal, S. (2019); http://vixra.org/pdf/1906.0126v1.pdf] in his paper titled "Mistakes in rebuttal of Refutation of the simulation argument and incompleteness of information" [James III, C. (2019); http://vixra.org/pdf/1906.0156v1.pdf] to show that the original paper makes a few mistakes and the refutation of the paper titled "The Simulation Argument and Incompleteness of Information" [Goyal, S. (2019); http://vixra.org/pdf/1906.0073v1.pdf] by Colin James III in the paper titled "Refutation of the simulation argument and incompleteness of information" [James III, C. (2019); http://vixra.org/pdf/1906.0090v1.pdf] is valid. I argue that the mistakes pointed out by Colin James III do not lead to the conclusions which he proposes and the refutation of his application of VŁ4 on the critique of simulation argument, as proposed, appears to be invalid.

Keywords: VŁ4; Logical Evaluation; Bayes' Theorem; Simulation Argument; Epistemology

Analysis

Colin James III (2019) has shown that several statements in the paper [1] refuting his earlier refutation [2] of a critique [3] of Bostrom's simulation argument [4] are non tautologous and evaluate to false [5]. The paper that Colin James III critiqued (henceforth called "G2") contains a critique of his earlier application of VŁ4 on a Bayesian argument and intends to show that the application of VŁ4 is faulty [1].

To set up the grounds of justification and to prevent any misunderstanding, the issue of refutation and justification is analysed. The original critique of Bostrom's simulation argument [3] (henceforth called "G1") involves using an equation developed from Bayes' theorem that is applied with an intent to show a fault in one of the conclusions of Bostrom's argument. The refutation proposed by Colin James III (2019) (henceforth "J1") involves converting the Bayesian equation into a quaternary logic analog (VŁ4) and then using that to show that the right and the left hand sides of the equation do not evaluate to the same logical values and thus are not tautologous [2]. Considering that any equation involving '=' must be tautologous in its domain, Colin James III proposes that the equation is logically invalid.

However, such an attempt to show invalidity of the equation is valid only if the quaternary logic analog of the equation is true and fair representation of the equation and for that to be the case, the analog of each term of the equation must evaluate to the same logical value in the domain of equation as the term of the equation. The paper by Shreyansh Goyal (2019) attempts to do that by taking a term of the equation and comparing it the quaternary logic equivalent as proposed by Colin James III [1].

In his paper titled "Mistakes in rebuttal of Refutation of the simulation argument and incompleteness of information", henceforth called "J2", Colin James III analyses six statements of the paper "G2" and shows that under VŁ4, as he applies it, only two equations out of six are valid (tautologous) and thus the refutation of the paper "J1" in "G1" is invalid and the original refutation in "J1" holds.

Table 1 – 6 statements given by Colin James III [4]

SNo.	Statement	Notation	Evaluates under VŁ4 as

S1	when ‘r’ is true, ‘%r\r’ must be true as well	r>(%r\r)	Non tautologous
S2	If ‘r’ is true, then ‘%r’	r>%r	Tautologous
S3	-	%r=(s=s)	Non tautologous
S4	if r, then possibility of r	(r>%r)>%r	Non tautologous
S5	if both ‘r’ and ‘%r’ are true, ‘%r\r’ evaluates to false	((r&%r)=(s=s))>((%r\r)=(s@s))	Tautologous
S6	R exists|We live in R	(r=(s=s))>((%r\r) &(%r\r))	Non tautologous

The paper “J2” assumes these six equations as rebuttal which is a misunderstanding of the paper “G2”. The first statement, S1, for example, uses the word “must” signifying that it should be the case that “when ‘r’ is true, ‘%r\r’ must be true as well”. The fact that it is not, under the method Colin James III applies, is precisely the reason why his argument is believed to be faulty. “r>(%r\r)” should be analogous to S6 which is “R exists|We live in R” because if it is true that “We live in R” (this is the standard way a Bayesian equation is read) then it follows that R must exist. That statement also evaluates to false/non tautologous under VŁ4 system as applied by Colin James III.

The reason for this misunderstanding is either one of two. Either Colin James III is assuming that the pipe symbol ‘|’ used in Bayesian equation could be represented by the division operator ‘/’ in VŁ4 system as applied by him which denotes “Not And” or negation of the results of application of “and” operator [4], or is it the case that he thinks that as long as his system is consistent in its use of ‘/’, it does not matter whether they are equivalent in all situations. However, this supposed equivalency between the pipe symbol and the division operator is not clear, given that they represent different statements. “X|Y” means ‘X’ given ‘Y’, while “X/Y” means “Not of X and Y”. If the division operator is assumed to represent the pipe symbol, it must be the case that both the cases must be tautologous, which is not the case as Colin James III himself shows [5].

Checking S5, we can see that Colin James III accepts that “if both ‘r’ and ‘%r’ are true, ‘%r\r’ evaluates to false” which directly stands in contrast with the reasoning that if it is possible that real world exists and it is true that we live in real world, it cannot be the case that it is not possible that we live in real world given that real world exists. The other two non-tautologous statements do not change the fact that the representation of the equation is incorrect under the quaternary logic used and the refutation of it stands invalidated *ab initio*.

Hence, it is safe to say that the alleged mistakes in the Bayesian argument arise from an inaccurate representation of it and the Bayesian equation holds even in the face of quaternary logic unless demonstrated otherwise.

References

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