

# Proof that the transition function of the topological manifold is not validated true (but incredibly close to being true!) © Copyright 2017 Colin James III All rights reserved.

From public source: [en.wikipedia.org/wiki/Topological\\_manifold](http://en.wikipedia.org/wiki/Topological_manifold)

Under Coordinate Charts

"Given two charts  $\phi$  and  $\psi$  with overlapping domains  $U$  and  $V$  there is a transition function  $\psi\phi^{-1}: \phi(U \cap V) \rightarrow \psi(U \cap V)$ . (1)

Such a map is a homeomorphism between open subsets of  $\mathbf{R}^n$ . That is, coordinate charts agree on overlaps up to homeomorphism. Different types of manifolds can be defined by placing restrictions on types of transition maps allowed. For example, for differential manifolds the transition maps are required to be diffeomorphism."

We map Eq 1 into Meth8 script to validate it:

LET: p q r s,  $\psi \phi U V$ , nvt Not Validated true, True (Evaluated) Designated truth values  
&  $\cap$  And,  $\setminus$  Not And,  $\rightarrow$  ":" > Imply,  $(\psi\phi^{-1}) (\psi \setminus \phi)$   
 $(p \setminus q) > ((q \& (r \& s)) > (p \& (r \& s)))$ ; nvt (2)

The truth table of Eq 2 (each model is the concatenation of four table rows of four values):

Model 1	.Model 2.1	.Model 2.2	.Model 2.3.1	.Model 2.3.2
TTTTTTTTTTTTTT <b>FT</b>	EEEEEEEEEEEEEE <b>UE</b>	EEEEEEEEEEEEEE <b>UE</b>	EEEEEEEEEEEEEE <b>UE</b>	EEEEEEEEEEEEEE <b>UE</b>
$(p \setminus q) > ((q \& (r \& s)) > (p \& (r \& s)))$ Step: 15				

The non truth values False (Unevaluated) are in bold above to show how closely Eq 2 diverges.

(If in Eq 2 the main connective > Imply is changed to & And or to < Not Imply, or the order of main terms are juxtaposed around those connectives, or the order of p,q is changed in combinations, then those expressions are also nvt.)

We ask what does this mean regarding the transition function of the topological manifold?

If it is not validated true, then the notion of manifolds is suspicious for:

Discrete spaces (0-manifold); Curves (1-manifold); Surfaces (2-manifolds);  
Volumes (3-manifolds); and General (n-manifolds).

This is troubling because Volumes (3-manifolds) resulting from Thurston's geometrization conjecture was proved by Grigori Perelman, but the prize was not accepted.

If the transition function of the topological manifold is not validated, then the set theory of Volumes (3-manifolds) apparently fails.

What follows is that branes, as predicated on manifolds, are also suspicious.