Refutation of block argumentation

© Copyright 2019 by Colin James III   All rights reserved.

Abstract: We evaluate the approach of block argumentation using the legal example of a popular case. Three scenarios are not tautologous. We attempt to resuscitate the method by substitution of generic block argumentation and also by testing the consequent parts separately. The equations were not tautologous, hence refuting the block argumentation approach as presented.

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). For results, 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  p, q, r, s, t, u, v, w, x, y, z: a1, a2, a3, a4, a5, a6, a7, a8, x, y, z;
~ 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; (z@z) F as contradiction;
(%z<#z) C as contingency, Δ, ordinal 1;
(%z>≡z) N as non-contingency, ∇, ordinal 2;
~( y < x) ( x ≤ y), ( x ⊆ y).

arxiv.org/pdf/1901.06378.pdf
ryutaarisaka@gmail.com, Stefano.Bistarelli@unipg.it, Francesco.Santini@unipg.it

"[I]n Section 2 we motivate our approach with a real legal example from a popular case.

a1: After the victim was attacked with VX, the suspect walked quickly to a restroom for washing hands. (a1.1)

    p ; (a1.2)

a2: The suspect knew VX was on her hands. (a2.1)

    q ; (a2.2)

a3: The suspect was acting for a prank video. (a3.1)

    r ; (a3.2)

a4: The suspect adjusted her glasses with VX on her hands before walking to the restroom. (a4.1)

    s ; (a4.2)
**a5:** Malaysian authorities are biased against the suspect, tampering with evidence by intentional omission of relevant CCTV footage.  
\( t=(z@z) \);  
(a5.1)

**a6:**  
\( a1 \) supports \( a2 \).  
\( u=(p>(q=(z=\bar{z}))) \);  
(a6.1)

**a7:**  
\( a4 \) attacks \( a2 \).  
\( v=(s>(q=\neg(z=\bar{z}))) \);  
(a7.1)

**a8:**  
\( a7 \) attacks \( a6 \)."  
\( w=(v>(u=\neg(z=\bar{z}))) \);  
(a8.1)

*Argumentation:*

**Remark A.1:** Argumentation assumes the relevant definitions from a1.1-a8.1 above.

**A:**  
\( a1 \) supports \( a2 \); \( a2 \) attacks \( a3 \); \( a4 \) attacks \( a2 \); \( a7 \) attacks \( a6 \); \( a8 \) supports \( a5 \).  
\( (((t=(z@z))&(u=(p>(q=(z=\bar{z}))))&((v=(s>(q=\neg(z=\bar{z}))))& (w=(v>(u=\neg(z=\bar{z}))) ))) > ( ((p>(q=(z=\bar{z})))&(q>(r=\neg(z=\bar{z}))))&v ))) & (( v>(u=\neg(z=\bar{z})))& (w>(t=(z=\bar{z}))) ) );  
TTTT TTTT TTTT TTTT (13) , FTTFF FTTFF FTTTT FTTTT (1) ,  
TTTT TTTT TTTT TTTT (1) , TTFFFF TTFFFF TTFFFF TTFFFF (1) (A.2)

**B:**  
\( a1 \) supports \( a2 \); \( a4 \) attacks \( a2 \).  
\( ((u=(p>(q=(z=\bar{z}))))&((v=(s>(q=\neg(z=\bar{z}))))>(u&v));  
TTTT TTTT TTTT TTTT (8) , TTTTT TTTT TTFFFF TTFFFF (4) ,  
TTTT TTTT TTTT TTTT (4) (B.2)

**C:**  
\( a1 \) supports \( a2 \); \( a4 \) attacks \( a2 \); (\( a1 \) supports \( a2 \)) and (\( a4 \) attacks \( a2 \)) supports \( a5 \).  
\( (((t=(z@z))&(u=(p>(q=(z=\bar{z}))))&((v=(s>(q=\neg(z=\bar{z}))))>>(u&v)>t));  
TTTT TTTT TTTT TTTT (14) , FTTFF FTTFF FTTTT FTTTT (2) (C.2)

"Then we can model the example argumentation as in A. Malaysian Police uses \( a1 \) for \( a2 \) (\( a1 \) supports \( a2 \)) to dismiss \( a3 \) (\( a2 \) attacks \( a3 \)). All these three arguments are made available to the audience. The defence lawyer uses \( a4 \) to counter \( a2 \). \( a4 \) is also available to the audience as attacking \( a2 \). He then uses \( a7 \), which is itself an argumentation, to attack Malaysian Police’ argumentation \( a6 \). This is also presented to the audience. Finally, he uses \( a8 \), an argumentation, for \( a5 \)."

**Remark A.B.C:** The authors do not predict or show which argumentation block of
A, B, C is tautologous.

"Arguments of the kinds of a6, a7 and a8 are themselves argumentations, so “a7 attacks a6” could be detailed as in B, and “a8 supports a5” as in C."

**Remark D.1:** Argumentation A can be rewritten to include generic expansions for B and C as a1 supports a2; a2 attacks a3; a4 attacks a2; B; C, although the authors do not show exactly how. Because C contains no reference to w, the assumption of w may be removed from the antecedent of A, although not considered by the authors.  

\[
(((t=(z@z))&(u=(p>(q=(z=z))))))(v=(s>(q=(z=z))))> \\
(((((p>(q=(z=z)))&(q>(r=\neg(z=z))))))&v)((u&v)&((u&v)>t)))
\]

\[
\begin{array}{cccccccc}
TTTT & TTTT & TTTT & TTTT & (10), & TTTT & TTTT & TTTT & TTTT \\
TFTT & TFTT & TFTT & TFTT & (2), & PTFF & PTFF & PTFF & PTFF
\end{array}
\]

Remark D.2

Eqs. A.2-D.2 as rendered are not tautologous, thereby refuting the approach of block argumentation as presented. The authors proceed to predict graphical (syntactic) and semantic constraints which we can not confirm.

**Remark E:** To resuscitate the approach we test each argument separately as the consequent in Eq. A.1 with respective assumptions.  

\[
((t=(z@z))&(u=(p>(q=(z=z))))>(((((p>(q=(z=z)))&(q>(r=\neg(z=z))))))&v))
\]

\[
\begin{array}{cccccccc}
TFTT & TFTT & TFF & TFF & (4), & TTTT & TTTT & TTTT & (8), \\
FFFF & FFFF & FFFF & FFFF & FFFF & (2), & TTTT & TTTT & TTTT & (2)
\end{array}
\]

Remark E.1.2

\[
((u=(p>(q=(z=z))))&(v=(s>(q=(\neg(z=z))))))>(u&v)
\]

\[
\begin{array}{cccccccc}
TTTT & TTTT & TTTT & TTTT & (8), & TTTT & TTTT & TTTT & TTTT \\
TFTT & TFTT & TFF & TFF & (4), & TTTT & TTTT & TTTT & (4)
\end{array}
\]

(B.2) = (E.2.2)

\[
(((t=(z@z))&(u=(p>(q=(z=z))))))(v=(s>(q=(\neg(z=z)))) )>((u&v)>t)
\]

\[
\begin{array}{cccccccc}
TTTT & TTTT & TTTT & TTTT & (14), & FFTF & FFTF & FFTF & FFTF \\
TTTT & TTTT & TTTT & TTTT & (2)
\end{array}
\]

(C.2) = (E.3.2)

Eq. E1.2-3.2 are not tautologous, hence not resuscitating the approach of block argumentation.