

## Logical confirmation of the Holy Trinity formula in the Athanasian creed

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We assume the method and apparatus of Meth8/VŁ4 with  $\tau$ autology as the designated *proof* value,  $\mathbb{F}$  as contradiction,  $\mathbb{N}$  as truthity (non-contingency), and  $\mathbb{C}$  as falsity (contingency). The 16-valued truth table is row-major and horizontal.

LET  $p, q, r, s$ : God the Holy Trinity, Person of the Holy Ghost (H),  
 Person of the Father (F), Person of the Son (S);  
 $\sim$  Not;  $\&$  And;  $+$  Or;  $>$  Imply;  $=$  Equivalent;  
 $\#$  necessity, necessarily, for every;  $\%$  possibility, possibly, for one.

From: [ccel.org/ccel/schaff/creeds2.iv.i.iv.html](http://ccel.org/ccel/schaff/creeds2.iv.i.iv.html) (The Athanasian creed follows this analysis.)

3. And the Catholic Faith is this: That we worship one God in Trinity, and Trinity in Unity;

4. Neither confounding the Persons: nor dividing the Substance [Essence].

5. For there is one Person of the Father: another of the Son: and another of the Holy Ghost. (0.1)

LET  $p, q, r, s$ : God the Holy Trinity (GT), Person of God the Holy Ghost as the Paraclete (GP), Person of God the Father (GF), Person of the Son (GS); (0.2)  
 $\sim$  Not;  $\&$  And;  $+$  Or;  $>$  Imply.

15. So the Father is God: the Son is God: and the Holy Ghost is God.

16. And yet they are not three Gods: but one God.

We rephrase Lines 15-16 to express the co-equality as:  
 GT implies ( (GP, GF, and GS) implies (GP, GF, or GS)). (1.1)

$p > ((q \& (r \& s)) > (q + (r + s)))$ ; TTTT TTTT TTTT TTTT (1.2)

**Remark:** Eq. 1.2 has the format of perfect number six:  $1 * 2 * 3$  implies  $1 + 2 + 3$ .

23. The Holy Ghost is of the Father and of the Son: neither made, nor created, nor begotten: but proceeding. [The Holy Ghost proceeds from the Father *and* the Son.]

We rephrase Line 23 as the filioque: GF and GS necessarily imply GP. (2.1)

$\#(r \& s) > q$ ; TTTT TTTT TTTT CCTT (2.2)

27. So that in all things, as aforesaid: the Unity in Trinity, and the Trinity in Unity, is to be worshiped.

We rephrase Lines 24-27, using Eqs. 2.1 to imply 1.1 as: If (GF and GS necessarily imply GP), then (GT implies ((GP, GF, and GS) imply (GP, GF, or GS))). (3.1)

$(\#(r \& s) > q) > (p > ((q \& (r \& s)) > (q + (r + s))))$ ; TTTT TTTT TTTT TTTT (3.2)

**Remark:** Eq. 3.1 has Eq. 2.1 (filioque) as antecedent to Eq. 1.1 (co-equality) as consequent. In other words, the filioque *commences* the proof of the Holy Trinity.

Eq. 3.2 as rendered is tautologous, confirming the formula of the Holy Trinity in the commonly named Athanasian creed.

The Athanasian Creed. Old translation, revised. (from [ccel.org/ccel/schaff/creeds2.iv.i.iv.html](http://ccel.org/ccel/schaff/creeds2.iv.i.iv.html))

1. Whosoever will be saved: before all things it is necessary that he hold the Catholic Faith:
2. Which Faith except every one do keep whole and undefiled: without doubt he shall perish everlastingly.
3. And the Catholic Faith is this: That we worship one God in Trinity, and Trinity in Unity;
4. Neither confounding the Persons: nor dividing the Substance [Essence].
5. For there is one Person of the Father: another of the Son: and another of the Holy Ghost.
6. But the Godhead of the Father, of the Son, and of the Holy Ghost, is all one: the Glory equal, the Majesty coeternal.
7. Such as the Father is: such is the Son: and such is the Holy Ghost.
8. The Father uncreate [uncreated]: the Son uncreate [uncreated]: and the Holy Ghost uncreate [uncreated].
9. The Father incomprehensible [unlimited]: the Son incomprehensible [unlimited]: and the Holy Ghost incomprehensible [unlimited, or infinite].
10. The Father eternal: the Son eternal: and the Holy Ghost eternal.
11. And yet they are not three eternals: but one eternal.
12. As also there are not three uncreated: nor three incomprehensibles [infinities], but one uncreated: and one incomprehensible [infinite].
13. So likewise the Father is Almighty: the Son Almighty: and the Holy Ghost Almighty.
14. And yet they are not three Almightyes: but one Almighty.
15. So the Father is God: the Son is God: and the Holy Ghost is God.
16. And yet they are not three Gods: but one God.
17. So likewise the Father is Lord: the Son Lord: and the Holy Ghost Lord.
18. And yet not three Lords: but one Lord.
19. For like as we are compelled by the Christian verity: to acknowledge every Person by himself to be God and Lord:
20. So are we forbidden by the Catholic Religion: to say, There be [are] three Gods, or three Lords.
21. The Father is made of none: neither created, nor begotten.
22. The Son is of the Father alone: not made, nor created: but begotten.
23. The Holy Ghost is of the Father and of the Son: neither made, nor created, nor begotten: but proceeding.
24. So there is one Father, not three Fathers: one Son, not three Sons: one Holy Ghost, not three Holy Ghosts.
25. And in this Trinity none is afore, or after another: none is greater, or less than another [there is nothing before, or after: nothing greater or less].
26. But the whole three Persons are coeternal, and coequal.
27. So that in all things, as aforesaid: the Unity in Trinity, and the Trinity in Unity, is to be worshiped.

28. He therefore that will be saved, must [let him] thus think of the Trinity.
29. Furthermore it is necessary to everlasting salvation: that he also believe rightly [faithfully] the Incarnation of our Lord Jesus Christ.
30. For the right Faith is, that we believe and confess: that our Lord Jesus Christ, the Son of God, is God and Man;
31. God, of the Substance [Essence] of the Father; begotten before the worlds: and Man, of the Substance [Essence] of his Mother, born in the world.
32. Perfect God: and perfect Man, of a reasonable soul and human flesh subsisting.
33. Equal to the Father, as touching his Godhead: and inferior to the Father as touching his Manhood.
34. Who although he be [is] God and Man; yet he is not two, but one Christ.
35. One; not by conversion of the Godhead into flesh: but by taking [assumption] of the Manhood into God.
36. One altogether; not by confusion of Substance [Essence]: but by unity of Person.
37. For as the reasonable soul and flesh is one man: so God and Man is one Christ;
38. Who suffered for our salvation: descended into hell [Hades, spirit-world]: rose again the third day from the dead.
39. He ascended into heaven, he sitteth on the right hand of the Father God [God the Father] Almighty.
41. At whose coming all men shall rise again with their bodies;
42. And shall give account for their own works.
43. And they that have done good shall go into life everlasting: and they that have done evil, into everlasting fire.
44. This is the Catholic Faith: which except a man believe faithfully [truly and firmly], he can not be saved.