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# LOGIC AND THE TRINITY

John Macnamara, Marie La Palme Reyes, Gonzalo E. Reyes

The paper gives a model of the sentences that express the core of the doctrine of the Trinity. The new elements in the model are: (1) an underlying map between DIVINE PERSON and GOD—in place of set-theoretic inclusion, and (2) the notion of a predicable keeping or not keeping phase in a system of kinds. These elements, which are explained in the text, are common in everyday language. The model requires no tampering with the fundamental laws of logic, nor does it require the use of any such difficult metaphysical notions as substance and essence as distinct from person.

“Licet enim Trinitas Personarum demonstratione probari non possit...convenit tamen, ut per aliqua magis manifesta declaretur.”

—St. Thomas Aquinas, *S.Th.*, q. 39, art. 6.

## 1. Introduction

The doctrine of the Trinity poses a well known logical puzzle: to show that it is not inconsistent to hold that there are three distinct Divine Persons, each of them God, and yet that there is only one God. The past few decades, not surprisingly, have seen several attempts to deal with the logic of the Trinity. These include Rahner (1970), Geach (1972), Power (1978), Martinich (1978), Davis (1983), LaCugna (1986) and Cartwright (1987). We will return to some of these. For the moment suffice it to say that Cartwright, while rejecting some proposed solutions, offers no solution of his own. Davis, perhaps, speaks for the field as a whole:

I do not dogmatically hold that the doctrine can never be shown to be coherent. I only claim that this has not yet been achieved. (p. 140)

Now if the doctrine of the Trinity really were inconsistent, then it could not express the central truth of the Christian religion and necessarily at least some of the claims made in stating the doctrine would be false. It is useless in this context to appeal to mystery. Only reality can be a mystery; inconsistency rules out reality.

It is equally unacceptable to seek refuge from apparent paradox in talk about the historical development of doctrine or the deep significance of the Trinity for salvation history. Undoubtedly the doctrine of the Trinity underwent important development and undoubtedly no logical analysis is going to illuminate the significance of the doctrine for salvation history or personal



spiritual life. Nonetheless, if the doctrine really were inconsistent, its historical development would be of historical interest only.

It is rare to find records of a logician explicitly denying the consistency of the doctrine of the Trinity. Few logicians write about the matter and those who do are usually sympathetic. A logician who seems to have denied its consistency, one deeply read in the history of theology, was Franz Brentano—at least if we are to believe his student and friend Carl Stumpf.

Brentano's motives [for leaving the Catholic Church] were of a theoretical nature, they were simply the result of internal contradictions in the Church's doctrine which even his penetrating mind, after years of wrestling with the problem, could not resolve.... On 19 November (1870) he wrote to me in Göttingen of an *enneakilemma*, a nine-term disjunction, in which he summarized the contradictions in the dogma of the Trinity (Stumpf, 1976, pp. 23-24).

## 2. *The Role of Logic*

The literature shows considerable confusion about the nature of a logical analysis in the study of the Trinity. The doctrine of the Trinity is expressed in human language; the core of it in quite straightforward language. If the sentences expressing the core are to say anything at all, they must be mutually consistent. The trinity, we are told, is a mystery surpassing human understanding; the same cannot be said about the sentences that express the Trinity. It is not for logic to perform the important job of assessing the truth of those sentences, or their religious significance either for salvation history or for personal spiritual life. It is simply to explore the mutual consistency of those sentences.

One shows a set of sentences to be consistent by giving a *model* for them. A model for a set of sentences is an interpretation of the set in which each sentence is true. The difficult part of giving a model of the doctrine of the Trinity is to give for all the expressions used an interpretation that is in keeping with the logical principles that handle the interpretation of natural-language sentences. The interpretation need not be the natural or even the orthodox one. It must respect the logical structure of the sentences and should retain the standard interpretation of the quantifiers and sentential connectives. Such a model merely shows that the set of sentences is *capable* of a consistent interpretation.

The notion of a model seems not to have been clearly grasped in the middle ages. St. Thomas Aquinas seeks to explain the theological significance of the doctrine of the Trinity at the same time as he defends it from charge of inconsistency. As far as we know, the concept of a model comes clearly into focus only with the work on non-Euclidean geometry in the nineteenth century. Since the task of giving a model is largely distinct from that of explaining significance, it follows that considerations of the historical origins of such

words as “person,” so crucial in stating the doctrine, are irrelevant to the task of giving a model. It follows further that the choice of sentences to express the core of the Trinitarian doctrine is far less sensitive than writers like LaCugna (1986) would have us believe.

We can best grasp the role of logic by considering the words of a logician about the doctrine of the Trinity. In a recently published article Richard Cartwright (1987) writes:

The heretical conclusion [that there are three Gods] follows, by the general principle that if every A is a B, then there cannot be fewer B's than A's. This principle, I claim, is evident to the natural light of reason. Thus, if every cat is an animal, there cannot be fewer animals than cats; if every senator from Massachusetts is a Democrat, there cannot be fewer Democrats than senators from Massachusetts. Just so, if every Divine Person is a God, there cannot be fewer Gods than Divine Persons. (p. 196)

The excerpt, which forms part of an analysis of the writings of Peter Geach on individuation and identity, must not be taken as indicating that Cartwright rejects the doctrine of the Blessed Trinity; only that he finds a particular statement of it to be essentially inconsistent. One purpose in writing this article is to show that there is no such general principle as he claims in the passage cited. In particular, we will show that there are simple cases where though every A is a B, there are fewer B's than A's. It is not our purpose to claim that Cartwright's rejection of Geach's writings on identity and individuation is unjustified or that Geach's writings on these matters are correct.

We can also illustrate the role of logic by making one other comment on some of the solutions proposed in the literature. A tempting one is that of Martinich (1978). He, in the spirit of Geach, claims that “nothing is identical with something absolutely, but only in a certain respect.” This leads him to propose that, say, while the Father and the Son are identical as God, they are different as persons. Unfortunately this neat proposal runs foul of a proof given by Wiggins (1980, chap. 1) that if  $a$  and  $b$  are equal as Gs and if  $a$  is a member of P,  $a$  and  $b$  must be equal as Ps. We will not reproduce the proof here. Suffice it to say that granted the suppositions that Martinich wishes to make, Wiggins's proof settles the matter.

Peter van Inwagen (1988) also opts for “relative identity” and he manages to elude Wiggins's refutation by laying aside Leibniz's law; for the refutation requires Leibniz's law. Leibniz's law is to the effect that  $a = b$  if and only if they share precisely the same properties. This is a very fundamental law of logic and van Inwagen is uneasy about dropping it. Indeed he goes so far as to say, “As far as I am able to tell, relative-identity logic has no utility outside Christian theology” (p. 259). Despite his protests, we find this to be an unfortunate admission, especially since Leibniz's law is the guarantee of distinctions among the three Divine Persons. Our own model does not involve any “tampering” with the foundations of logic.

### 3. *Statement of the Doctrine of the Trinity*

Cartwright does us a service by extracting from the Athanasian Creed seven sentences that give the core of the Trinitarian problem that concerns us. Since nothing relevant to our purposes hangs on the niceties of wording, we can do no better than begin with them.

- (1) The Father is God.
- (2) The Son is God.
- (3) The Holy Spirit is God.
- (4) The Father is not the Son.
- (5) The Father is not the Holy Spirit.
- (6) The Son is not the Holy Spirit.
- (7) There is exactly one God.

With this set of sentences as it stands Cartwright has no quarrel. Trouble begins only when he considers various reformulations designed to make their logic more evident. First, he notes, correctly, that we cannot, on pain of heresy, interpret the “is” of (1)-(3) as expressing identity. For if a unique God really were identical with the Father, Son and the Holy Spirit, then these three would have to be one and the same Divine Person. This follows from the logic of identity: if  $a = b$  and  $a = c$ , then  $b = c$ . An identity reading of “is” here would force either the heresy that there are three Gods (Tritheism) or the heresy that there is only one Divine Person (Sabellianism). There is, however, no problem in interpreting the “is” of sentences (4)-(6) as expressing identity. They can be read as saying that the Father is not identical with the Son or with the Holy Spirit and that the Son is not identical with the Holy Spirit.

Cartwright next considers a reformulation that inserts the indefinite article before the word “God” in (1)-(3). This treats “God” clearly as a count noun and yields sentences on the model of “Socrates is a person.” The new set is:

- (1a) The Father is a God.
- (2a) The Son is a God.
- (3a) The Holy Spirit is a God.
- (4a) The Father is not identical with the Son.
- (5a) The Father is not identical with the Holy Spirit.
- (6a) The Son is not identical with the Holy Spirit.
- (7a) There is exactly one God.

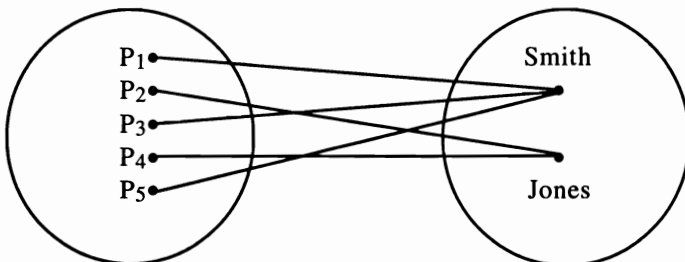
Cartwright declares that this is an inconsistent set. What seems to be guiding his judgment is a set-theoretic interpretation of (1a)-(3a) which takes the set

of Divine Persons to be a subset of the set of Gods. The inclusion relation among sets is one-one in this sense: If *A* is included in *B*, then for each member of *A* there is a member of *B* identical with it and, identity being a symmetric relation, there are as many *B*'s identical with *A*'s as there are *A*'s with *B*'s. The identity implicated in set inclusion implies that the *B*'s cannot be less numerous than the *A*'s. If, indeed, Divine Persons were a subset of Gods, then the matter would end there, for on the inclusion interpretation of set theory there would have to be as many Gods as Divine Persons. It is obvious, then, that the relation between Divine Persons and God(s) cannot be construed as one of set-theoretic inclusion—if we are to hold on to orthodoxy. We need instead some other interpretation of that relation. Cartwright comes to the conclusion that no other interpretation of (1a)-(3a) is possible. He claims further that we know this by “the natural light of reason.” It is this conclusion that we contest. Davis (1983), using the noun “thing,” reaches essentially the same conclusion.

4. *Prolegomena to the Model*

We begin by giving commonplace examples where each *A* is a *B* and yet there are fewer *B*'s than *A*'s. We then go on to explain informally the logic behind the example in sufficient detail to reveal the relation between the *A*'s and *B*'s and show how it leads to the model for (1a)-(7a) that is described in the next section. We then explain the logic of predicables (mainly adjectival and verbal phrases) that modify the relevant count nouns—still in an informal manner.

Let us suppose that Smith makes three distinct trips with Canadian Airways in 1990, one in May, another in September and still another in October. The company will correctly claim to have carried three passengers even though these three particular passengers are associated with only a single person. While every passenger is a person the number of persons is smaller than the number of passengers. (We borrow the example from Gupta (1980).) This example is a modern version of the problem of counting heralds that comes from the Middle Ages. We can represent this example with the help of the following diagram adding another person who has also travelled on different occasions.



$P_1 \dots P_5$  are different passengers. The set of passengers is mapped into the set of persons. The cardinality of the set of passengers is 5, while the cardinality of the set of persons is 2. Clearly the relation between passengers and persons is not set-theoretic inclusion. Instead, there is an underlying map between the two kinds in precisely this sense, that one and only one person underlies each passenger. A single person, however, can underlie several passengers. The underlying relation is expressed in English by the heavily burdened copula "is." Other examples of the same phenomenon are patients admitted to a hospital, diners in a restaurant and customers in a shop. The counts of patients, diners and customers need not equal the corresponding counts of persons. Particularly interesting for us is the case of majors in a university. A single person can at one and the same time major in philosophy and mathematics. The Department of Philosophy and Mathematics will separately include the student in their lists of majors and the university will add the lists and count two majors although only one person is involved. Other such examples are patients and professors. A single person can simultaneously be the patient of a urologist and of a heart specialist: that is be two patients. A person can be a professor in two separate universities. There are many such examples. They are particularly relevant because the Divine Persons, being eternal, are simultaneously a single God.

The first and most important component in our model will be the underlying map from the kind DIVINE PERSON into the kind GOD. This is the map which associates with each Divine Person a single God.

Sentences (1a)-(3a) refer to the Divine Persons by definite descriptions which in the case function like proper names. The logic of proper names is that they denote an individual in a kind—which kind is crucial, because the function of the kind is objectively to specify the bearer and determine the bearer's identity. Since the matter is crucial, it is important to grasp it firmly.

Not all the count nouns that come into play with the use of a proper name denote the kind that specifies the bearer and determines its identity. One may be introduced to a person with the words "This is my wife, Jane." But "wife" does not handle the identity of the bearer, since the lady in question was Jane before she became anyone's wife. Even "woman" will not do, for Jane was once a girl and not a woman. Even the collection of molecules that constitutes Jane's body is not what bears the name "Jane." That collection is changing constantly, but Jane remains the same person. It would seem that what does the job correctly is the kind PERSON. Because through all the changes of life, with its various stages and states, Jane is the same person.

The general conclusion is that a kind is implicit in the interpretation of a proper name. (For a further argument see Macnamara, 1986, and La Palme Reyes, Macnamara & Reyes, 1994.) Although "thing" and "object" are count nouns they will not, independent of more particular count nouns, perform the

logical functions to which we are drawing attention. If on their own “thing” and “object” really were, logically, common nouns, they would have a universal extension—everything would be a thing. To allow this would be, in effect, to allow bare particulars; and it is a fundamental principle of the logic of kinds that there are no bare particulars. To see why not consider the following. When one points to Smith and says “That is Smith,” there is no knowing how many things or objects one is pointing to—persons, limbs, organs, cells, molecules, etc. Since there is no individuating under “thing” or “object,” neither is there any provision for identity. Individuation and identity require a more specific count noun, such as “molecule,” or “person.” We return to the interpretation of such words as “thing” and “object” in section 7.

More particularly, the conclusion we are leading up to is that the proper names in (1a)-(6a) are interpreted in conjunction with the count nouns “Divine Person”; not “God,” mind you. In other words, the expressions “the Father,” “the Son” and “the Holy Spirit” are picking out individuals in the kind DIVINE PERSON, not in the kind GOD. The reason for this is that “God” does not handle identity correctly. For the Trinitarian sentences say that there is only one God, yet the Father, Son and Holy Spirit are distinct Divine Persons. It follows that “God” neither individuates nor specifies the identity of that which is referred to by “the Father” or by “the Son” or by “the Holy Spirit.” Indeed the Athanasian Creed as much as says this: “the Father’s *person* is one, the Son’s another, the Holy Spirit’s another” (p. 18; all citations of the Athanasian Creed are taken from Kelly, 1964).

This leads us to the following readings of (1a)-(3a):

(1a') Underlying the Divine Person that is the Father is a God.

(2a') Underlying the Divine Person that is the Son is a God.

(3a') Underlying the Divine Person that is the Holy Spirit is a God.

Sentence (7) says that there is exactly one God. It follows that the Trinitarian doctrine is that although the Father, the Son and the Holy Spirit are three distinct Divine Persons, the God that underlies the Father and the God that underlies the Son and the God that underlies the Holy Spirit, is one and the same God. We can illustrate the nature of the underlying relation by returning to passengers and persons. As we mentioned before the underlying relation is a function that associates with each passenger a unique person. It also satisfies the condition that if a passenger is present in any situation, the underlying person is also present in that situation. When counting passengers, then, we distinguish among them by the times in which they travel. Thus even if Canadian Airway’s flight from Montreal to Toronto at 9:00 a.m. is always numbered CA 230 (that is, is counted always as the same flight), a passenger on Monday and a passenger on Tuesday will be registered as different pas-



sengers even though it is the same person who travels. Time, then, is of basic importance in distinguishing among passengers.

Time cannot play the role of distinguishing among Divine Persons, who are eternal and unchanging. How, then, can we understand the three Divine Persons to be distinct? To answer, we must appeal to Leibniz's law of identity. It says that any two objects *a* and *b* are identical if and only if they have exactly the same properties. It follows from this principle that if we want to show *a* and *b* to be distinct all we have to do is to show a property that *a* does and *b* does not have. Properties distinctive of each Divine Person are supplied by the Athanasian Creed:

The Father is from none, not made nor created nor begotten. The Son is from the Father alone, not made nor created, but begotten. The Holy Spirit is from the Father and the Son, not made nor created nor begotten, but proceeding (p. 19).

More succinctly, the Father alone generates the Son; the Son alone is generated by the Father; the Holy Spirit alone proceeds from the Father and the Son. It is not our intention to try to interpret the words "generate" and "proceed" in this context, beyond to say with Cajetan (1506/1963) that they apply analogically to Divine Persons and to human persons. All that is needed for our purposes is that the words name different analogical relations. It is clearly the intention of the author(s) of the Athanasian Creed that they should.

We must now study the relation between the individuating properties for the Divine Persons and show that while they individuate the Divine Persons, they do not force an equally numerous individuation among Gods. We can illustrate the way the danger might arise by considering just two of the individuating properties. The Father alone among the Divine Persons has the property of generating the Son. The Father is God, however; so it might seem that a God has the property of generating the Son. Likewise, the Son has the property that alone among the Divine Persons he is generated by the Father. But the Son is God; so it might seem that God has the property of being generated by the Father. If those two properties were sufficient to distinguish one Divine Person from another, why are they not sufficient to distinguish one God from another? This line of thought would lead to the claim that if the individuating properties individuate three Divine Persons, then they individuate three Gods; one for each Divine Person.

What blocks this line of reasoning, and the heretical conclusion, is that in the theory of kinds predicables are typed by count nouns. Such typing is common in everyday language. The predicable "white" applied to human skin and to paper denotes very different colours. The predicable "silly" applied to a goose and to a person denotes different properties. The predicable "dull" applied to a knife and to a day also denotes quite different properties. The predicable "run" applied to a dog and to a government denotes very different actions.

The phenomenon also crops up in connection with kinds that are in the underlying relation. Plato drew attention to the fact that although every thief is a person, a good thief may not be a good person. Similarly, although every baby is a person, a big baby is not a big person. Although every person is an animal, it does not follow that a white person is a white animal; white animal being exemplified by white rabbits and white mice, which are of a quite different shade from the skin of white people. Although every passenger is a person, it does not follow that a good passenger is a good person. At the same time not all predicables behave in this way; every male horse is a male animal, every winged bird is a winged animal, every old man is an old person, etc.

The second important component in our model of the Trinity is the claim that the individuating predicables—"begets the Son," is begotten by the Father" and "proceeds from the Father and the Son"—behave like "big" as applied to BABY and PERSON. In a terminology that we make precise in the next section we say that the individuating predicables do not keep phase as they transfer from "Divine Person" to "God." This logical fact blocks the threat of either Tritheism or Sabellianism. We see here a departure from the interpretation of "begets" and "begotten" in connection with other kinds. For example, if a philosophy major begets a daughter, the underlying person begets a daughter. If a philosophy major was begotten by Smith, so was the underlying person. A capital point in our theory of count nouns and predicables is that a predicable's keeping phase is defined relative to a system of kinds. The system that concerns us here has just two members: DIVINE PERSON and GOD.

Notice that to motivate this model we did not appeal to any such difficult notions as essence as distinct from person (which pervades Aquinas's treatment of the Trinity) or to a distinction between substance and person (*S. Th.* 1, q. 30, art. 1, ad. 1), or to a contrast between identity in the thing itself and distinction in the theory of the thing (*S.Th.* 1, q. 28, art. 3; 1, q. 39, art. 1). Of course Aquinas's objective is as far as possible to explain the meaning of the doctrine of the Trinity, whereas ours is simply to give a model for it. Nonetheless, it is consoling that without the support of erudite (though venerable) notions from scholastic metaphysics, one can build so straightforward a model.

### 5. Presentation of the Model

We now go on to make certain notions introduced in section 3 more precise and to specify the model. We begin with the notion of a kind, which is the reference of a count noun.

We think of a kind as a set together with an existence map. For example the kind PASSENGER comprises the set  $P$  of all the passengers that ever were, are and will be together with the map  $E_P$  that assigns to each passenger

the set of situations, factual and counterfactual, in which the passenger appears. We can represent the kind PASSENGER as  $(P, E_p)$ . We will not attempt to be more precise about the meaning of “situations,” or “appearance in a situation” since our particular purpose does not require us to do so. Since the three Divine Persons are eternal, we need not consider their domain of “existence.” Even the Son is eternal, as the Athanasian Creed states, only as a man is he born in time: “He is God from the Father’s substance, begotten before time; and he is man from his mother’s substance, born in time” (p. 19). We do not consider the kind MAN in our model.

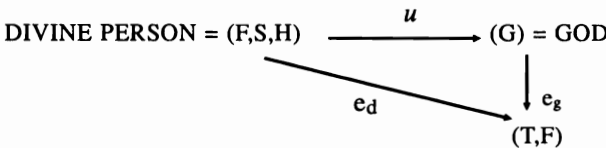
In our model we then have the kinds DIVINE PERSON and GOD and an underlying map  $u$ : DIVINE PERSON  $\rightarrow$  GOD. First let us look at the syntax. We considered a two-sorted language, where the sorts are  $d$  (for Divine Person) and  $g$  (for God). The constants are  $P, S, H, G$  (thought of as the Father (Progenitor), the Son, the Holy Ghost and God respectively). The first three are sorted by  $d$  and the last is sorted by  $g$ . The predicables are sorted by either  $d$  or  $g$ . The predicables sorted by  $d$  are:  $g_d, d_d, e_d, bs_d, bn_d, p_d, c_d$ , (thought of as “is a God,” “is a divine person,” “is eternal,” “begets the Son,” “is begotten by the Father,” “proceeds from the Father and Son” and “creates the world” respectively). The predicables sorted by  $g$  are:  $g_g, d_g, e_g, bs_g, bn_g, p_g$  and  $c_g$ . We are not very rigorous in the presentation of our language but for the purpose of this article we believe we are formal enough.

We interpret the count noun “divine person” as the kind DIVINE PERSON with three elements  $P, S, H$  thought of as the interpretation of the constants  $P, S, H$ : and the count noun “God” as the kind GOD which contains just one element  $G$  thought of as the interpretation of the constant  $G$ . Furthermore we have the set of truth-values  $(T,F)$  where  $T$  stands for truth and  $F$  stands for falsity, and the unique underlying map  $u$ :  $(P,S,H) \rightarrow (G)$ .

A predicable of Divine Person is interpreted as a map

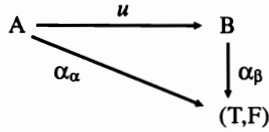
$$(P,S,H) \rightarrow (T,F)$$

and a predicable of God is interpreted as a map from  $(G)$  to  $(T,F)$ . Let us represent all this in a diagram taking the predicable “eternal” as an example.

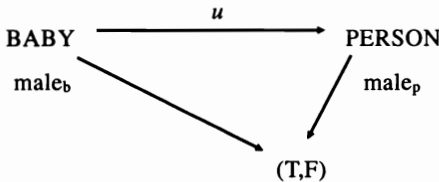


The predicable  $e_d$  is interpreted as the map from DIVINE PERSON into  $(T,F)$  (call the map  $e_d$ ) which yields  $e_d(P) = T, e_d(S) = T$ , and  $e_d(H) = T$ ; the predicable  $e_g$  is interpreted as the map  $e_g$  from GOD into  $(T,F)$  defined by  $e_g(G) = T$ .

We now give some definitions relating to predicables. We say that the family of interpretations of a single predicable *keeps phase* relative to a system of kinds if and only if for any pair of kinds in the system that are in the underlying relation  $u$  the following diagram commutes



By commuting we mean that for any  $a \in A$ ,  $\alpha_a(a) = \alpha_b(u(a))$ . For example, take the various kinds that are in the underlying relation with PERSON in our system and take “male” as our predicable. We say “male” keeps phase relative to the system if and only if all such diagrams as the following commute



Turn back to the more general diagram. The predicable  $\alpha$  keeps phase if and only if the family of its interpretations keeps phase.

We turn again to the Trinitarian doctrine and apply this theory to complete our model. We recall that we have  $(P,S,H) \xrightarrow{u} (G)$ ; and we have the various predicables typed alternatively by DIVINE PERSON and GOD. We can tabulate the truth value for each of the predicables as applied to each of the constants in the two kinds.

	Sort	Interpretation			Sort	Interpretation	Keep Phase
	d	P	S	H	g	G	
g		T	T	T		T	yes
d		T	T	T		F	no
e		T	T	T		T	yes
bs		T	F	F		F	no
bn		F	T	F		F	no
c		F	F	F		T	no

The essential point of the model is that it accounts for (i) there being three Divine Persons, each being God, and yet there being only one God; (ii) the fact that the predicables that individuate the Divine Persons do not keep phase and so do not individuate among Gods.

### 6. *The Original Formulation*

The original formulation of the Trinitarian doctrine is given in sentence (1) - (7) which Cartwright correctly derived from the Athanasian Creed. Recall that the difference is that in the original formulation of (1) - (3) there is no indefinite article before "God." Cartwright's argument was that to read, for example,

(1) The Father is God

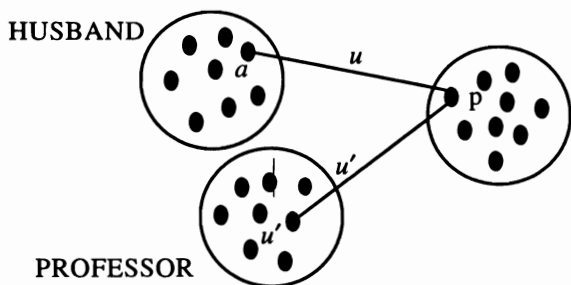
as

(1a) The Father is a God

leads to heresy. We have seen that it does not. Nevertheless we should ask ourselves if (1) is logically equivalent to (1a). We are strongly inclined to think it is. St. Thomas (*S. Th.* 1, q. 13, art. 9, ad. 2) says that "God" is not a proper name (*nomen proprium*) but a common noun (*nomen appellativum*). The reason he gives is that "God" ("*deus*") has a plural, "Gods" ("*dii*"). Indeed the plural "*dii*" occurs in the Athanasian Creed. What he means is that while it is false to say there are many Gods, it makes sense to ask if there are many Gods. Whereas, given a proper name for an individual "Joseph," it makes no sense to ask if there are many Josephs (not meaning many different persons bearing the name "Joseph" but many of this individual that bears the name "Joseph"). In support of Aquinas's view, Geach (1961, p. 109) points out that "God" is *translated* into other languages, not *transliterated* as are proper nouns. Durrant (1973, chap. 1) reaches the same conclusion. Altogether we find the evidence that "God" in (1) is not a proper name to be quite convincing.

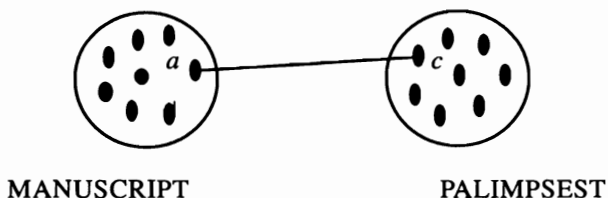
So why is the Athanasian Creed normally translated as "the Father is God, the Son God and the Holy Spirit God" (*ita deus Pater, deus Filius, deus Spiritus Sanctus*)? Why not translate as "the Father is a God etc.?" Since Latin, the original language of the Athanasian Creed (which seems to be incorrectly attributed to St. Athanasius), does not have either a definite or an indefinite article, the issue we are discussing does not arise in Latin. (Incidentally, Greek does not have an indefinite article either.) The reason for the English translation seems to be insistence on monotheism in the style of the wording. Certainly the declaration "I believe in God" strikes one as rather different from "I believe in a God." The former seems to presuppose monotheism, the latter not. For all that, we would like to say that the logical form





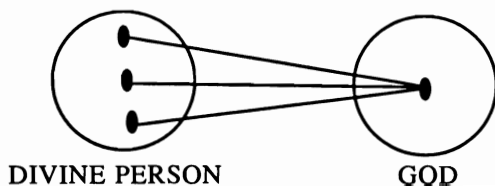
in which  $a$  and  $a'$  correspond to the same entity since  $u'(a) = u'(a') = p$

A second example is provided by the Library of Congress. It contains books, manuscripts, palimpsests, encyclopedias, volumes, etc. In this case the notion of entity is item, rather than volumes or words or books. We may arrive at this notion as follows: make a list of all books, another of all manuscripts, another of all palimpsests, etc., and compare them. Some documents will appear in the list of manuscripts and also in the list of palimpsests. We express the relationship between the palimpsest and the corresponding manuscript as follows:



Intuitively we identify  $a$  of the list of manuscripts with  $c$  of the list of palimpsests and we consider that  $a$  and  $c$  constitute only one item. This notion of item is a particular case of the general notion of colimit in the theory of categories.

In the case of the Trinitarian Doctrine there is only one entity or being obtained by the following identification:



Aquinas (*S.Th.* 1, *q.* 45, *art.* 6) says that God created the world and that it is true to say of the Divine Person the Father, for example, that he created the world only insofar as he is God. In our context that passage could be interpreted as follows: underlying the Father there is a unique God, who created the world. But to return to the passages with which we began this section, we now see that while claiming each of the Divine Persons to be eternal, infinite, etc., the Athanasian Creed quite intelligibly claims that there is only one being that is eternal, infinite, etc.

### Conclusion

What have we accomplished? We have given a model of the sentences that express the core of the doctrine of the Trinity, thus allaying once and for all the fear that they are inconsistent. The new elements in the model are (1) an underlying map between DIVINE PERSON and GOD in place of the standard inclusion maps; (2) the notion of a predicable keeping or not keeping phase in a system of kinds. Both notions are very well grounded in everyday language. We ended with a third new element, (3) the notion of an ENTITY in a system of kinds. With this we are able under certain conditions and for certain purposes to treat as identified members of disjoint kinds, while for other purposes holding those members distinct.<sup>2</sup>

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### NOTES

1. St. Thomas seems to say that each Divine Person is identical with God—see *S. Th.* 1, *q.* 39, *arts.* 1 and 6. This is not, however, as straightforward a statement as it seems to be. He distinguishes between identity in the thing itself (*in re*) and identity in the theory of the thing (*ratione*), saying that each Divine Person is identical with God *in re* but not *ratione*. Elsewhere (*S.Th.* 1, *q.* 28, *art.* 3) he says that the really distinct Divine Persons are identical with God not in the manner of an absolute thing but in that of a relative thing. The example St. Thomas gives to illustrate his meaning is taken from Aristotle's *Physics*: "although action is identical with change and so is passion. It does not follow that action and passion are identical with one another" *S.Th.* 1, *q.* 28, *art.* 3, *ad.* 1. This we find difficult to understand: although sense can no doubt be made of it in the context of Aristotle's theory of physics.

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