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Wittgenstein's Creed: Mythology and Axiomatic Systems[1]

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Abstract The paper describes a syntagmatic structure shared by axiomatic systems and creeds. In particular, the structure is based on the repetition of syntagm containing a modal operator ("I believe"), a name, and several descriptions. These syntagms should not be confused with empirical sentences. Rather, drawing on Wittgenstein, they can be compared to *hinge statements:* linguistic games that determine individual identity and *weltbild*. The rendering explicit of *hinge statements* in an axiomatic system generates orthodoxy and heresies, philosophical and political conflicts. The presence of this structure in a subset of religious and scientific discourses implies a bidirectional transfer of values between them. On one hand, it proves that religious discourse can be as rational as philosophical and scientific ones (there is *logos* in the *mythos*); on the other hand, axiomatic scientific discourse projects noological categories onto reality, producing a cosmos (there is *mythos* in the *logos*). Axiomatic expositions of scientific knowledge use the same modal operators as cosmogonic myths and imply a subject who believes in the resulting cosmology. The expression of these beliefs is not addressed to a transcendent entity; it instead asserts the belonging of the subject to a community based on the socio-semiotic sharing of the credit.

Keywords: Modal operators, Epistemic values, Belief, Creed, Enunciation

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0. Introduction

The similarities between scientific and religious discourse in terms of the logical features of their arguments are discussed in a classical monographic work by Joseph Bochenski (1965). According to Bochenski, a set of axioms can be identified in various religions, many of which belong to the creed. In turn, the function of creeds in religious discourse has been compared to the role played by a set of interconnected axioms in scientific discourse: «Theology may be defined as a study in which, along with other axioms, at least one sentence is assumed which belongs to a given Creed and which is not sustained by persons other than the believers of a given religion» (*Ivi*: 14).

Of course, not every genre of scientific and religious discourse can be axiomatized. In particular, Bochenski is mainly interested in theology and its inner logic. In the following discussion, religious and scientific discourse will be used to indicate a form of

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discourse that can be presumed to be axiomatizable, at least in principle. Bochenski suggests that many discursive genres might be characterized by the presence of this kernel of beliefs: his example revolves around Communist discourse. In his work, he also lays out a comparison between theology and physics (*Ivi*: 64) and speculates on «the (paradoxically) rationalist character of religious beliefs, founded on the certainty given to the believers by their faith that there are no inconsistencies between their Creed and the results of reasoning» (*Ivi*: 23). To paraphrase 1 Corinthians 12:4, there are different kinds of working, but it is the same *Logos* at work in all of them and in everyone.

In this paper, I pose the opposite research question: if scientific discourse shares with religion a kernel set of *credal phrases,* then in all of them and in everyone the same *Mythos* is also at work. To put it in other terms, I aim to describe the unconventional part of the meaning produced by axiomatic reasoning, a part that is mainly a product of its peculiar form (*signum formale*) and is not *said* but is rather *shown* by it (Wittgenstein 1922: 4.1212; Bochenski 1965: 27) in the same way that «propositions show the logical form of reality» (Wittgenstein 1922: 4.121).

1. Wittgenstein's creed

On 11 June 1916, Ludwig Wittgenstein wrote in his diary:

> What do I know about God and the purpose of life?
> I know that this world exists.
> That I am placed in it like my eye in its visual field.
> That something about it is problematic, which we call its meaning.
> That this meaning does not lie in it but outside it.
> That life is the world.
> That my will penetrates the world.
> That my will is good or evil.
> Therefore that good and evil are somehow connected with the meaning of the world.
> The meaning of life, i.e. the meaning of the world, we can call God.
> And connect with this the comparison of God to a father.
> To pray is to think about the meaning of life.
> I cannot bend the happenings of the world to my will: I am completely powerless.
> I can only make myself independent of the world--and so in a certain sense master it--by renouncing any influence on happenings (Wittgenstein 1961: 73).

This was period of terrible anxiety for the author taking place during the Brusilov offensive*,* a lethal Russian attack against the Central Powers armies on the eastern front where Wittgenstein was serving. It was a moment that marked a change in Wittgenstein's research and a renewed interest in ethics (Monk 1990: 140). In fact, some of these lines (5.621, 6.41, 6.373) would later become part of his *Tractatus* (Wittgenstein 1922). According to the scholars whose work is known as "The New Wittgenstein" (Crary and Read 2000), the 6th section of *Tractatus* should be interpreted as a sort of joke; on the contrary, both Wittgenstein (1961) and his secret diaries written at the time (Wittgenstein 1922) show that the philosopher's attitude toward religion and mysticism was not ironic (On this subject see also Galofaro 2022).

As suggested by the style of writing, the literary model followed by this entry is that of a *creed*. We can consider for examplethe Roman Creed reported by Rufinus of Aquileia (4th century AD):

> I believe in God the Father almighty;

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and in Christ Jesus His only Son, our Lord,
Who was born of the Holy Spirit and the Virgin Mary,
Who under Pontius Pilate was crucified and buried,
on the third day rose again from the dead,
ascended to heaven,
sits at the right hand of the Father,
whence He will come to judge the living and the dead;
and in the Holy Spirit,
the holy Church,
the remission of sins,
the resurrection of the flesh
[the life everlasting][2] (Engl. transl. in Kelly 1972: 102).

As in the Roman Creed, Wittgenstein's text contains an "I" expressing some epistemically modalized sentences ("I know that…"). Both texts are written in blank verse. Just as the creed provides a definition of God ("Father almighty"), Wittgenstein too defines this figure ("the meaning of life", "the meaning of the world", "a Father"). Due to the structural analogy, it is valid to compare Wittgenstein's text to a religious creed. The analogy between the two syntagmatic structures is presented in more depth in the next section.

2. Syntagmatic structure of a creed

The material beliefs comprising the creeds of different religions vary, as the formulation of the creed of a specific religion can change diachronically. Specific credal phrases may be added or deleted; in Catholicism, besides the Roman creed reported above, well-known ones include the Apostolic creed, the Nicene Creed, the Constantinopolitan Creed, as well as a great number of variants. The elements probably representing the minimal building blocks of a creed are expressed by an African formula cited by Kelly (1972: 89):

> […] he confesses the faith, saying:
> I believe in God, the Father almighty,
> and in His only-begotten Son,
> our Lord Jesus Christ,
> and in the Holy Spirit, and in the resurrection of the flesh in the holy Catholic Church

Every credal phrase is constituted by the concatenation of three elements:
-   A modal value M (e.g. "I believe in" or, in Wittgenstein's case, "I know that"), which can be implicit. Since both semiotics and modal logic distinguish between knowing and believing, a specific section below will be dedicated to the meaning of these two operators.
-   A name N (e.g. God; Jesus Christ; the Catholic Church)
-   Zero or more descriptors D (e.g. "Father almighty"; "only-begotten Son").

Viewed from this perspective, the deep structure of such credal phrases as "the remission of sins" is "I believe in the sins that will be remitted" (MND). Similarly, "the resurrection of the flesh" should be analyzed as follows: "I believe in the flash that will be resurrected" (MND). However, descriptors may also be omitted.

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[2] The last verse is only present in the Greek version.

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The minimal formula entails five repetitions of the concatenations: God, Jesus Christ, the Holy Spirit, the flesh, and the Catholic Church. This seems to be the minimum number of concatenations, whereas there is no upper limit to the concatenations that may be added in the variations. For these reasons, using the notation system of *regular expressions,* creeds can be represented as follows:

$$(MN(D)^*)\{5,\}$$

In this formula, *M* is a modal value, *N* is a name, and *D* is a descriptor. The parentheses include groups of elements; the symbol * means "zero or more" of the previous group; and the symbol *{5,}* means "at least 5 repetitions of the previous group". Adopting this formalism, the Roman Credo would be represented as MNDD (God) MNDDDDDDDDDD (Christ) MN (the Holy Spirit) MN (the Holy Church) MND (the remission of sins) MND (the resurrection of the flesh) [MND] (life everlasting). In a similar way, Wittgenstein's Creed can be formalized as follows:
MN (the world) MND (I and the world) MNDD (meaning and the world) MND (life and the world) MNDD (will and the world) MNDDD (God and the world). Of course, if we were to analyze such sentences as "To pray is to think about the meaning of life" as implying "I know that to pray…", we could also add more syntagms to the structure. The regular expression provided above can also be considered a rule for adding new statements to a previous creed so as to obtain a structure that is new and well-formed from a syntagmatic point of view. The regex thus represents the law of the diachronic development of the creed from early texts onward as a morphodynamical development from a seminal version. Interestingly, litanies present a similar regular structure (Galofaro and Kubas 2016).
On a basic level, Wittgenstein's creed also mirrors this structure. For example, it could be reformulated as follows:

> I know God, the Father, the meaning of the world and, though unseen, all that is seen, connected to my will insofar as it is good or bad.

As a credal phrase, the reformulated sentence could be considered Wittgenstein's personal contribution to Christian creed and mystical theology: in fact, it is a definition of God. However, it is more convincing in its original form, of course, since Wittgenstein introduces the descriptions one by one in a way that causes readers to ascend to progressively higher levels of mystical abstraction, from the world to its border to the outside space and finally God, a similar progression to the one we find in Dante's *Paradise.* The narrative features of the creed will be discussed in the following section.
Turning to axiomatic sets, it appears that they present the same structure. For example, after having introduced a short sketch of set theory, a treatise about Linear Algebra presents the following definitions:

> Let K be a subset of the complex numbers C (Lang 1970: 2).

In the sentence, it is possible to identify a modal operator M ("let"), a name N ("K") and a description D ("subset of the complex numbers C"). In a similar way:

> We shall say that K is a field if it satisfies the following conditions:
> (a) If x, y are elements of K, then x + y and xy are also elements of K.
> (b) If x ∈ K, then -x is also an element of K. If furthermore x ≠ 0, then x^{-1} is an element of K.

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(c) The elements 0 and 1 are elements of K.
We observe that both R and C are fields (*Ibid.*).

In this case as well, the structure of the definition is composed of a modal operator M ("shall"), a name N ("field") and some descriptions D ("... is K", a, b, and c). The resulting syntagm is MNDDD. Of course, the sentence «We observe that both R and C are fields» is not part of the definition, since such a statement would be inferred from it. However, in a credal style, one could write:

> I believe in K, subset of the complex numbers C
> And I believe in the fields, which are K,
> Whose elements are sums of its elements
> Whose elements are products of its elements
> Whose elements are the negative of its elements
> …

This Algebraic Creed is a parody, of course; nonetheless, it sounds as if it has obscure theological implications. The reason for this is obvious, in part, as the credal style belongs to the linguistic forms through which our culture communicates religious content. This meaning effect is conveyed by the form itself, insofar as it contains fixed, repeated elements and always-changing clauses. In the original algebraic manual, this peculiar feature is only partially expressed: it should be considered a *form of the content plane.*

3. Stylization

A possible objection might be: While any set of definitions provides the reader with all the information needed to understand the scientific discipline being presented, a creed implies theological notions and metaphysical concepts unknown to worshipers. «In the Apostles Creed and in the Nicene Creed the adherent must believe stories more than icons and icons more than doctrines» (Cummings 1985: 739). A creed is a narrative about a God–the Father who generates a Son; about the Holy Spirit, which in later versions proceeds from the First; about a Church which receives this revelation; and about the resurrection of the bodies (not only the immortality of the soul, as in a Platonic perspective for example). However, axiomatic definitions share with credal formulas their *stylization:* their figurative traits are very scarce, and they point to abstraction. As Cummings wrote in the passage quoted above, the Father, the Son, and the Holy Spirit are *icons;* they work as stylized devotional images, conventionally taken to represent complex theological concepts which are researched and explored elsewhere. The same stylization is at work in the definitions in algebra books. The figurative features of algebraic space are very limited, but not altogether absent: with the mind's eye we can see multidimensional spaces generated by vectorial bases and filled with intersecting vectors that can be projected, normalized, and transformed; however, they do not resemble the landscape I can see through my window as I write these lines, one filled with intricate trees and plants partially hiding the majestic sight of the Carnic Prealps on the horizon. The same stylization affects Wittgenstein's creed and the interplay between the world and a point of view located at its border in a place beyond our gaze where its meaning lies, depicted as analogous to God.

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4. Knowing and believing in religious contexts

The German text of Wittgenstein's creed is: «Was weiz ich über Gott und den Zweck des Lebens?» (Wittgenstein 1961: 73). Wittgenstein thus uses the verb *weiz* (to know) and not the verb *glauben* (to believe), as he does in the entry dated 8.7.16 in which he makes explicit reference to the Christian creed:

> An einen Gott glauben heißt, die Frage nach dem Sinn des Lebens verstehen.
> An einen Gott glauben, heißt sehen, dass es mit den Tatsachen der Welt noch nicht getan ist.
> An einen Gott glauben, heißt sehen, dass das Leben einen Sinn hat.
>
> To believe in a God means to understand the question about the meaning of life.
> To believe in a God means to see that the facts of the world are not the end of the matter.
> To believe in God means to see that life has a meaning (Wittgenstein 1961: 74).

The English version above does not show this reference to the Christian Creed: «Wir glauben an den einen Gott» (I believe in one God). In the quoted passage, Wittgenstein is not interested in the meaning of believing in *a* god; he focuses on believing in *one* God, according to a monotheistic perspective. After all, Wittgenstein had received a formal Catholic education and, according to his sister Gretl, never ceased to be a Christian (Mc Guinness 1988: 43). Wittgenstein inherited his moral sensibilities from his Catholic mother (*Ivi*: 22).

How can the difference between "to know" and "to believe" be interpreted in the context outlined here? Are we allowed to interpret Wittgenstein's text as a creed in spite of the fact that he does not use the verb "to believe"?

In modal logic, the difference between the epistemic operators "to believe" and "to know" is compared to the traditional philosophical distinction between *doxa* and *episteme*, i.e. between *opinion* and *knowledge* or between simple beliefs and founded beliefs (Palladino and Palladino 2007: 73). As epistemic operators, "to believe" and "to know" refer to an idealized epistemic subject.

The generalization of modal logic seems inadequate to represent the different ways that the worlds "to believe" and "to know" are used in different linguistic contexts. Let us consider the utterance: «I believe that you will return». The *illocutionary force* of the belief is different if the utterance is addressed to a friend than it is if addressed to Christ, e.g., in a prayer. This is why Searle (2020: 54) cites the creed as an example of an illocutionary mode through which language allows speakers to intentionally commit themselves to entire states of affairs (*Ivi*: 51). For this reason, there is a strong similarity between "to know" and "to believe" in many religious contexts. From the point of view of structural semantics, they both express "certainty". Structural semiotics proposes an interesting analysis of the polysemic verb "to believe":

> As a subject's acceptance of an utterance of state, believing is seen as a cognitive act overdetermined by the modal category of *certainty*. This category can have a twofold interpretation in contemporary writings on logic and on semiotics. At times it is taken as an alethic category: believing as a synonym of "possibility" is then identified with its term *not-having-not-to-be*. At other times, certainty is taken as an autonomous epistemic category, *believing-to-be*, with its term *certitude*. On the basis of the distinction between the schema *possible/impossible* (which constitutes a categorical opposition excluding any third term) and the schema *probable/improbable*, which allows for a gradation, we propose to view believing as

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the natural language name for the epistemic category (Greimasand Courtés 1979: 24).

Speaking about the subject of the belief, the Latin verb *credo* is related to *creditum* (credit). In the terms of a theory of social communication, "to believe" presupposes a subject who «knows an *art of the other* (some techniques of dialogue which tame the difference)» (de Certeau 1981: 19, my translation). This subject is probably as idealized as the one of epistemic logic, but its field of knowledge is socio-semiotic rather than ontic: it is not about states-of-affairs. In the context of religious discourse, therefore, "to believe" does not express uncertainty, *opinion,* or *doxa,* but a *different kind of certainty, knowledge,* and *episteme.*

A similar argument about the verb "to know" was formulated, at the end of his life, by Ludwig Wittgenstein himself:

> What I am aiming at is also found in the difference between the casual observation "I know that that's a ...", as it might be used in ordinary life, and the same utterance when a philosopher makes it (Wittgenstein 1969: 52).

The form of these statements is apparently deceiving, because they resemble empirical propositions. However, according to Wittgenstein: «[…] they do not serve as foundations in the same way as hypotheses which, if they turn out to be false, are replaced by others» (*Ivi*: 51). Their meaning is considered true only inasmuch as it is an unmoving foundation of a language-game. In other words, enunciates such as "I know that …" identify the *form of life* of the Christian, the Philosopher, the Scientist, the Saint, the Politician, and many others. This also explains the Christian use of the term "to believe": for example, «Catholics believe as well that in certain circumstances a wafer completely changes its nature, and at the same time that all evidence proves the contrary» (*Ivi*: 32).

In the same period, in the course of criticizing Moore's notion of common sense, Wittgenstein concludes that some beliefs are included in sets of *hinge statements:*

> 341. That is to say, the question that we raise and our doubts depend on the fact that some propositions are exempt from doubt, are as it were like hinges on which those turn.
> 342. That is to say, it belongs to the logic of our scientific investigations that certain things are indeed not doubted
> 343. But it isn't that the situation is like this: We just can't investigate everything, and for that reason we are forced to rest content with assumption. If I want the door to turn, the hinges must stay put (*Ivi*: 44).

According to Wittgenstein, one must accept *hinge statements* all together if one wants to play a linguistic game, i.e., if one *is* a form of life:

> 344. My life consists in my being content to accept many things.
> (…)
> 346. When I am trying to mate someone in chess, I cannot have doubts about the pieces perhaps changing places of themselves and my memory simultaneously playing tricks on me so that I don't notice (*Ibidem*).

As they are turned into common sense, hinge statements become more stable and less subject to diachronic change in cultures. Religious convictions can be considered a class of hinge statements, the same kind that form axiomatic systems of philosophical and

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scientific arguments, on one side, and many stereotypical commonplace assertions, on the other. The role played by these convictions in science in relation to the religious role they play is the basis of the notion of *hinge epistemology* (Boncompagni 2022).

5. Are there axiomatic hinge statements?

Unlike such axiomatic systems as topology and algebra, hinge statements are generally part of common sense. However, axiomatic systems cannot be considered the opposite of hinge statements:

> 655. The mathematical proposition has, as it were officially, been given the stamp of incontestability. I.e.: "Dispute about other things; *this* is immovable-it is a hinge on which your dispute can turn." (Wittgenstein 1969: 87).

Wittgenstein does not hold that hinge sentences automatically organize themselves into creeds or coherent and consistent sets of axioms, however:

> 657. The propositions of mathematics might be said to be fossilized.-The proposition "I am called …" is not. But it too is regarded as incontrovertible by those who, like myself, have over- whelming evidence for it. And this not out of thoughtlessness. For, the evidence's being overwhelming consists precisely in the fact that we do not need to give way before any contrary evidence. And so we have here a buttress similar to the one that makes the propositions of mathematics incontrovertible (*Ibidem*)

Therefore, an axiomatic system such as mathematics expresses "fossil common sense". In turn, the propositions that make up commons sense are considered axioms by Wittgenstein:

> 550. If someone believes something, we needn't always be able to answer the question 'why he believes it'; but if he knows something, then the question "how does he know?" must be capable of being answered.

> 55I. And if one does answer this question, one must do so according to generally accepted axioms. This is how something of this sort may be known. (*Ivi*: 72)

Are these axioms necessarily coherent? It is clear that Wittgenstein was not particularly concerned by the possible discovery of contradictions in mathematics:

> Or suppose that there is a contradiction in the statutes of a particular country. There might be a statute that on feast days the vice-president had to sit next to the president, and another statute that he had to sit between two ladies. This contradiction may remain unnoticed for some time, if he is constantly ill on feast-days. But one day a feast comes and he is not ill. Then what do we do? I may say, "We must get rid of this contradiction." All right, but does that vitiate what we did before? Not at all.
> Or suppose that we always acted according to the first rule: he is always put next to the president, and we never notice the other rule. That is all right; the contradiction does not do any harm.
> When a contradiction appears, then there is time to eliminate it. We may even put a ring round the second rule and say, "This is obsolete." (Wittgenstein 1939: 210).

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Similarly, Bochenski (1965: 83) suggests two ways of dealing with apparent inconsistencies in the set of hinge statements: first, we may ask ourselves whether it really is an inconsistency; second, we may ask if the two sentences under consideration are real hinge statements. Bochenski quotes Whitehead's observation that «a contradiction is not a failure: it is an opportunity».

However, the fossilization of hinge statements can lead to consequences which are relevant to the argument developed here. In particular, Wittgenstein points to hinge statements to draw a distinction between *Weltanschauung* and *Weltbild* (world-picture). While the first is related to a knowledge system, the second is «an ungrounded way of acting» (Genova 1995: 51). Various scholars consider the notion of *Weltbild* relevant to morals (Tyler 2011: 44, Christensen 2011). Above all, coherence cannot be used to justify a *Weltbild* since there exist an indefinite number of coherent *world-pictures* and beliefs are not experience-based (Coliva 2015: 44).

This leads to the following hypothesis: the effort of making hinge statements explicit in the systematic form of a creed or system of axioms is related to their fundamental role in determining both individual and collective identity, grounding the *Weltbild* in a *Weltanschauung*. This problem will be investigated below.

6. A creed is not a prayer

For multiple reasons, a creed is not the same thing as a prayer. A prayer does not necessarily express knowledge or beliefs about God. According to Joseph M. Bochenski (1965: 41), prayers are not intended to express truth-valued propositions. Unlike creeds, prayers do not necessarily present epistemic modalities, since prayers are *speech acts*. Worshipers hope that their prayers will be answered. The reason why our prayers are answered is a classical *topic* of treatises: «Our conviction that God is looking at us and that He has the power to grant what we ask of Him earns us the right to be heard and to be given what we seek» (Cassian 1985: 120).

Furthermore, considered as utterances, prayers involve two subjects, namely worshipers and a divinity. Worshipers are inferior to the divinity in terms of power; they thus use knowledge to seduce the divinity (Marsciani 2008). On the contrary, in a creed, the "you" is not God. The formula is "I believe in God", not "I believe in You". Faith is expressed not to God but to the community: the first credal formulas can be found in relation to *baptism* (Kelly 1972: 30-61). In eastern formulas, "I" is sometimes substituted by the pronoun "we" (Kelly 1972: 182-184). As will be shown in the next section, credal formulas can also be addressed to pagan magistrates. Furthermore, when Christianity became the official imperial cult, credal formulas acquired a juridical value (a "test" of orthodoxy). For example, Arius and Euzoius submitted a creed to the emperor Constantine in 327 AD in the hope of being readmitted to the Church (Kelly 1972: 189).

Also, in the case of Wittgenstein's creed, the declaration is addressed to the community and not to God or Wittgenstein himself. In fact, this diary entry is not encrypted, as he used to do to when recording his religious invocations, but uncoded, like the annotations containing his philosophical daily work.

7. Thymic values and passional effects of the confession of faith

Acta martyrum contains many confessions that echo a creed. An example can be found in the Acts of Maximilian (died 295 AD):

> Dion said to Maximilian: 'Agree to serve and receive the military seal.'

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'I will not accept the seal', he replied. 'I already have the seal of Christ who is my God.'

Dion said: 'I shall send you to your Christ directly.'

'I only wish you would,' he replied. 'This would be my glory.' Dion addressed his staff: 'Let him be given the seal.' Maximilian resisted and said: 'I will not accept the seal of this world; and, if you give it to me, I shall break it, for it is worthless. I am a Christian. I cannot wear a piece of lead around my neck after I have received the saving sign of Jesus Christ my Lord, the son of the living God. You do not know him; yet he suffered for our salvation; God delivered him up for our sins. He is the one whom all we Christians serve: we follow him as the prince of life and the author of salvation.'

'You must serve', said Dion, 'and accept the seal— otherwise you will die miserably.'

'I shall not perish,' said Maximilian. 'My name is already before my Lord. I may not serve.' (Engl. transl. in Musurillo 1972: 247).

Similar confessions can be found in the most ancient *acta,* such as the Acts of Cyprian: «I am a Christian, and a bishop. I recognize no other gods but the one true God who made heaven and earth, the sea, and all that is in them» (*Ivi*: 169). The Acts of the Scillitan martyrs likewise contain a credal phrase referring to the holy scriptures:

'If you begin to malign our sacred rites,' said Saturninus, 'I shall not listen to you. But swear rather by the Genius of our lord the emperor.'

Speratus said: 'I do not recognize the empire of this world. Rather, I serve that God whom no man has seen, nor can see, with these eyes. I have not stolen; and on any purchase I pay the tax, for I acknowledge my lord who is the emperor of kings and of all nations.'

(…)

Saturninus the proconsul said: 'Have no part in this folly of his!'

Cittinus said: 'We have no one else to fear but our Lord God who is in heaven.' (*Ivi*: pp. 88-89).

According to a structural analysis of *Acta martyrum* proposed by Marcello La Matina (2018: 72), in the declaration the usual figurative meaning of words such as *father, emperor,* and *salvation,* relative to the cosmology of the culture in question, is changed by adding to them non-figurative categories such as «identical, stable, [and] unique» that are relative to the noology of the culture. This point is confirmed by the *emotive* reaction of the pagan judge. When semantically reinterpreted in relation to God, worlds such as *flesh, judge,* and *dead* change their *thymic* value:

The thymic category is articulated into euphoria/dysphoria (with aphoria as the neutral term) and plays a fundamental role in the transformation of semantic micro-universes into axiologies. By connotating one deixis of the semiotic square as euphoric, and the opposite deixis as dysphoric, the thymic category provokes the positive and/or negative valorization of each of the terms of the elementary structure of meaning (Greimas and Courtés 1979: 346).

In a similar way, when defining God, creeds not only connect previously existing lexemes but also change their meaning. An interesting analysis formulated in a Peircean fashion has been proposed in this vein by Krech (2021: 265-270) which shows how a creed is a chain of elements constantly relating an immanent element (e.g., the believers) to a transcendent one that interprets it (one God, the Father); the relationship between the two becomes a new element serving to continue the development of the chain.

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A semantic reinterpretation of the elements also applies to Wittgenstein's creed, in which the thymic value of "world" and "meaning" do not express their *standard* meaning: the set of meanings presented in Wittgenstein's discourse becomes an axiology by virtue of their euphoric valorization. In this way they lead the author to an ethical conclusion («I can only make myself independent of the world – and so in a certain sense master it – by renouncing any influence on happenings») that evokes both an ascetic attitude and the mystic self-annihilation of the subject.

8. Cosmology in axiomatic systems

La Matina's notes about credal phrases can be extended not only to creeds but also to axiomatic systems in general. If we consider the axiomatic exposition of linear algebra, its system produces a whole *cosmos* made up of fields and subfields, vector spaces that are relative to the fields and populated by multidimensional vectors which can be combined, form bases, be dependent or not, be orthogonal or not, etc… All this depends on an operator (let, shall) which in turn is related to cosmogonic myths («Let there be light») and corresponds to a credit accorded by the subject to the resultant cosmology («I know that two vectors A, B are orthogonal if A·B = 0»). It is not strange, therefore, that many philosophical theories adopt a realistic point of view about mathematical objects. In other words, axiomatic sets and creeds are cosmological descriptions whose form of their content produces a reality effect in the context of a discursive genre featuring some forms of life. If the syntagmatic structure of creeds can be used to prove that religious discourse is as rational as scientific discourse, therefore, the credal structure of scientific discourse can be used to prove that scientific discourse is as mythical as religious discourse, with all the possible consequences that might follow in terms of its passion-based impact on common sense, political discussions and conflicts, and the production of cults, sects, orthodoxy and heresies.

9. Conclusion

The argument of the paper can be summarized as follows: a set of axioms and a creed share the same syntagmatic structure, containing a modal operator ("I believe"), a name, and several descriptions. This structure implies a bi-directional transfer of values from religion to science and vice versa or, more precisely, between axiomatizable subsets of religious and scientific knowledge. On one hand, this proves that religious discourse can be as rational as philosophical and scientific ones (there is *logos* in the *mythos);* on the other hand, axiomatic presentations of scientific arguments operate to project noologic categories onto reality, thereby producing a cosmos (there is *mythos* in the *logos).* Axiomatic systems use the same modal operators as cosmogonic myths and imply a subject who believes in the resulting cosmology. These beliefs should not be confused with empirical sentences. In keeping with Wittgenstein, these sets of beliefs have been labeled *hinge statements:* linguistic games that give rise to individual identity, grounding its world-picture (*Weltbild*) in an explicit *Weltanschauung* and generating orthodoxy and heresies as well as philosophical and political conflicts, as in the case of the persecutions of Christians. In fact, the confession of these beliefs is not addressed to a transcendent entity; rather, it confirms the subject's belonging to a community based on the socio-semiotic sharing of a form of religious, philosophical, or scientific credit.

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