

# Life: Science, Philosophy, Theology

articolo

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## 1. Introduction

To deal with the topic of life in science, philosophy and theology is a formidable task, one that nobody could honestly claim to be able to carry out. Actually, it involves disciplinary, interdisciplinary and intercultural difficulties.

Starting from the disciplinary difficulties, in theology the concept of life has to do with the problems of eschatology and eternal life, the problems of the intermediate state and afterlife, as well as the life of creatures like angels or demons; but these problems almost vanish when compared with the formidable bulwark of the *quaestio de vita Dei*: how to conceive and to speak of the life of godheads, or of the One and Unique God. In philosophy, for some philosophers the problem of how to think of life has been a real stumbling block: for instance, the young Hegel did not venture to build his philosophical system until he was convinced to have grasped the intelligible structure of life<sup>2</sup>. But in philosophy there is not only the theoretical problem of conceptualising life, and of the conditions of possibility of an epistemic knowledge of it; we have also the question of a sapiential reflection on life, aimed at establishing the right way of managing life and of bearing its burden. Finally, science - and above all the life sciences - are obviously interested in a scientific definition, description and explanation of life and its processes; the problem of the origin(s) of life is also still unsolved, while the possibility of lives other than that of terrestrial type is often reassessed, be it in the context of astrobiology or Artificial life (ALife).

As to the interdisciplinary difficulties, a first question refers to the object of, and the boundaries between, science, philosophy and theology. Take for instance the Hindu concept of *prāna*, the Chinese idea of *Qi* or the Homeric notion of *thumos*: do they belong to philosophy, theology or proto-science? Besides, these disciplines are influenced by other disciplines and human practices, so that one may easily find notable philosophical reflections in poetry, or ancient theological texts in a poetic garment; at times, some theologians have even lamented a lack of a “poetic theology”, capable of fostering a deeper personal relationship with God<sup>3</sup>. In this interdisciplinary circulation of terms and concepts, made of distant echoes, deep resonances and a continuous lending and borrowing of ideas, it becomes very difficult to state who is giving and who is taking back; thus, a further difficulty is added for she who wants to clearly distinguish between different disciplinary contributions, an intricacy which is particularly felt when one deals with ancient texts, where religious, philosophical and proto-scientific ideas are deeply intermingled. Finally, the intercultural difficulties have both a synchronic and a diachronic side. From the synchronic perspective, we must face the formidable task of listening to the huge variety of peoples and cultures, systems of thought and beliefs, *Weltanschauung* and *Weltauffassung* that in every moment cohabit on our planet. To this it must be added the diachronic problem of studying the theme of life in past epochs, from cave religion to post-postmodern philosophies or futuristic biology. This situation must warn us, as a caveat, to be ex-



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tremely wary of easily comparing different traditions.

In short, should we give up the task even before having addressed it? Not at all, since the challenge is all too tempting. So, as a way out of the impasse, I have chosen to listen to mankind, and in particular to the ways in which we humans have thought and expressed life; my object will thus be, in general, the interplay of Being and Saying<sup>4</sup>. We will see that, as we observe *how* people predicate life, we will also understand a little better *what* life is. In order to accomplish this task, I will start from the well-known dichotomy between metaphor and metonymy; that is, instead of directly addressing the topic of life in science, philosophy and theology, I will take an indirect route, starting from the conceptual and linguistic ways of thinking and speaking of the reality we are all immersed in.

## 2. Metaphors and Metonymies

The reflection upon metaphors and metonymies lies at the crossroads between linguistics, semiology, rhetoric and the philosophy of language.

A metaphor occurs when “a word or phrase literally denoting one kind of object or idea is used in place of another to suggest a likeness or analogy between them (as in *drowning in money*)”<sup>5</sup>; in brief, a metaphor is based on a relationship of similarity. A metonymy is “a figure of speech consisting of the use of the name of one thing for that of another of which it is an attribute or with which it is associated (as ‘crown’ in ‘lands belonging to the crown’)”<sup>6</sup>; in brief, a metonymy is based on a relationship of contiguity.

Metaphors and metonymies offer their own difficulties in relation to our inquiry about life.

A first problem is that these two tropes can be so intertwined that it is hard to discriminate their respective contribution. Especially

in old or poetic texts, this interweaving makes the linguistic analysis challenging. For instance, in Psalm 38: 10 we read: “My heart throbs, my strength fails me; as for the light of my eyes - it also has gone from me”. To translate literally, the psalmist speaks of the luminary of the eyes. So, first of all “luminary” is a metonymy for “light”; then, the “light of the eyes” is a metaphor, rarely found in the Bible, by which life and inward vitality are seen as light<sup>7</sup>. However, it is not light in general to be quoted, but specifically the light of the eyes; so, it seems that here “eye” constitutes another metonymy, standing for “human body”.

These cases illustrate a general fact, which has been clearly pointed out by Jakobson<sup>8</sup>:

“The overlap between similarity and contiguity gives to poetry that symbolic, complex and polysemic essence which intimately pervades and organizes it ... In poetry,

where similarity is projected onto contiguity, any metonymy is slightly metaphorical and any metaphor has a metonymic tinge”.

A different problem is given by the frequent reversibility of these tropes.

First of all, metaphors usually work both forward and backward. Let us examine, for instance, the similitude by which Achilles stands to the other men like a lion stands to the other animals; from this, the metaphor *Achilles is a lion* is born, but we can also say that *the lion is the Achilles of animals*. Another example is given by the analogy between man and universe; in this case, we can equally call man a microcosm, or the cosmos a *macranthropos*. The reversibility of metaphors brought the medieval philosophers to distinguish the primary from the secondary analogate (*primum* and *posterius* or *secundarium analogatum*), which is a useful distinction in philosophical reasoning, but not so pertinent in the linguistic and rhetorical field.

Also in the case of metonymy a certain reversibility is often present. Take for instance

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the metonymy between blood and life. On one side, we can say that “Jesus shed his blood for us”, that is, he gave his life for us; in this case, we have the metonymy *blood for life*. On the other side, we can say that “life flows in our veins”, using the metonymy *life for blood*.

The reversibility problem involves another quandary, about who is entitled to use a certain metaphor. When someone tells us that a state is like an organism, or vice versa, is she or he speaking as a philosophising biologist, or as a philosopher doing science?

### 3. *Metaphors of Life, in General*

Literature on metaphors is copious, both about their general nature and their usage in specific fields. Here, I would particularly recall the books *Metaphors We Live by*<sup>9</sup> and *La métaphore vive*<sup>10</sup>, since they make an explicit reference to life already in their title, and an interesting essay by Schlanger specifically devoted to *Les métaphores de l'organisme*<sup>11</sup>.

Now, the value of metaphors as a thinking tool is still controversial. The debate traces back at least to Aristotle, who sternly declared that metaphors are as useful and valid in poetry as they are dangerous and misleading in theoretical thinking, be it of a philosophical or scientific nature (e.g. *Meteorologica* 357a). Also in the sciences, the use of metaphors is seen with suspicion by many scholars. From Rosenblueth and Wiener's famous caveat, quoted and approved by Lewontin<sup>12</sup>, and according to which the price of a metaphor is eternal vigilance, to Rose, who speaks of the dangerous fascination of metaphors<sup>13</sup>, science and the philosophy of science abound in warnings against metaphors. However, we also find various authors who enthusiastically embrace the power of metaphors. In what is perhaps the pièce de résistance of the analogical method in contemporary biology, James G. Miller makes an interesting statement precisely about the organismic metaphors we are dealing with:

“A scientific generation patterns its models upon its dominant metaphors. (...) The organic analogy, becoming sophisticated in a

new century [that is, this 21<sup>st</sup> century, PR], is the dominant metaphor of our time in scientific analyses of complexity. Today we think in terms of systems, and our characteristic models and simulations deal with a system or a component of one. My concern with the organismic, organizational approach of systems theory put me in a main channel of current thought”<sup>14</sup>.

In summary, since it is perhaps impossible to completely do without metaphors, it is better to make a reasonable use of them, and especially to recognise their role in the advancement of knowledge.

In what follows, we will divide the various metaphors into two groups, respectively based on human and natural phenomena. Interestingly, most metaphors about life and living beings are themselves, in some way or another, linked to life: human collectivities are also groups of living beings, machines are the product of living beings, flames result from redox reactions similar to those that take place in living beings. Even mechanism, which is often presented as a radical repudiation of the originality of life with respect to nonliving beings, implies at its roots some affinity between machines and life: after all, any machine, device, tool and artifact must have something in common with living beings, they themselves being a product, an effect, and the result of the activity of some (non necessarily human) living being.

### 4. *Metaphors Based on Human Phenomena*

#### 4.1 *Human Collectivities*

Probably, the most frequent and important metaphors about life and living beings are those revolving around human collectivities. Since antiquity, a parallel between the living body and society at large has been sensed, and eventually deepened and expanded. Among the social metaphors of the living being, we find society, community and population, while on the political side we have state, republic, monarchy, federation, confederation and colony. These metaphors are exquisitely bidirectional, so that it has been

claimed both that living beings are like human collectivities, and that human collectivities are like living beings.

Among biologists, Ernst Haeckel, formidable coiner of new terms and audacious analogies, very frequently used sociopolitical metaphors, calling the multicellular organism a colony of social cells (*Colonie von vielen sozialen Zellen*), a society (*Gesellschaft*), a State of citizens (*Staatsbürger des Staates*), and even a civilised State (*civilisierter Staat*) whose citizens enjoy different functions towards a common purpose<sup>15</sup>. In the 20<sup>th</sup> century, these ideas were rephrased in molecular terms. For instance, Lwoff claimed that the organism is a complex molecular society<sup>16</sup>, while Dawkins renewed the colony metaphor: “Some people use the metaphor of a colony, describing a body as a colony of cells. I prefer to think of the body as a colony of *genes*, and of the cell as a convenient working unit for the chemical industries of the genes”<sup>17</sup>.

The similarity between organisms and human collectivities works also in the opposite sense, when we say that some human collectivity is like life or a living being.

The list of the collectivities likened to life is long and rather heterogeneous. To take just some examples, one finds that culture (Spengler), society (Agrippa Menenius Lanatus), states (Plato, Machiavelli, Hobbes), churches (Paul of Tarsus), language (von Humboldt), law (Savigny), organisations like bureaucracy or firms (Luhmann) have been likened to living beings; especially during Romanticism, the metaphoric effort around the organism reached a peak of intensity<sup>18</sup>. These metaphors are also widespread beyond Western cultures: for example, the hexagram 48 of the *I Ching* is named the well (*Ching*), since it is interpreted as a well which benefits the people by supplying water to the village; the commentators explain that just “as wood as an organism imitates the action of the well, which benefits all parts of the plant, the superior man organizes human society, so that, as in a plant organism, its parts co-operate for the benefit of the whole”<sup>19</sup>; here, the metaphor is double: first of all, society is like a tree, owing to the cooperation among its

members; then, a tree is like a well, as they both distribute nourishment.

In theology, we can remember the 1943 Encyclical *Mystici Corporis Christi* by Pius XII, which asserted in a consistent way the doctrine of the Church as the Mystical Body of Christ. Since the Catholic Church is there seen as a perfect society, we can list the following passages among the social metaphors. Actually, in many points the Pope seems to think more in terms of an identity (the Church *is* a body) than a metaphor (the Church is *like* a body); yet, he also explicitly writes that the Church “may be likened to a body”<sup>20</sup>. Though its metaphors could be referred to living beings in general, the Encyclical particularly focuses on the similarity with the human body:

“That the Church is a body is frequently asserted in the Sacred Scriptures. ‘Christ’, says the Apostle, ‘is the Head of the Body of the Church’<sup>21</sup>. If the Church is a body, it must be an unbroken unity, according to those words of Paul: ‘Though many we are one body in Christ’”<sup>22</sup>.

The Encyclical then passes to compare the properties of the Church to those of a living body, claiming that both are endowed with concreteness, a multiplicity of interacting members, the presence of organs, and the capacity for self-maintenance and reproduction. The reader will have sensed that all these social and political metaphors refer less to living beings than to living *organisms*. That is, it is the organisation or the organic fabric of a living being to guide the metaphorisation. This aspect poses a subtle problem, which has been clearly seen by Canguilhem<sup>23</sup>:

“It is not easy to tell how the concept of organisation stands to that of organism, whether it is a more general structure, at the same time more formal and richer, or whether it is, with regard to the organism as a fundamental kind of structure, a model characterised by such high a number of limiting conditions as to have no more consistency than a metaphor”.

An interesting idea that has been proposed by Woodger is that there are three fundamental kinds of organisation and organised

wholes. Inorganic ones range from the atoms to the solar system; then we have biological wholes, that is, the living organisms; finally, there are artefacts, which include the works of art and the social institutions. Now, despite the great variation in the mode of organisation in these entities, each of them may offer an analogy, hence a metaphor, for living beings:

“organisms *resemble* machines in being organized above the chemical level and, as already pointed out, it is for this reason that machines offer an analogy with organisms. But this is also the case with many other things: The solar system, crystals, works of art and all manner of artefacts. It is because all these entities are single individual organized things that they have all from time to time been appealed to as offering an analogy with organisms”<sup>24</sup>.

#### 4.2 Hierarchical Position

The idea of a human collectivity immediately calls for a consideration of the hierarchical position of the individuals within it.

In this sense, we find two interesting metaphors of life in the *Prashna Upanishad* (III, 1-3). On one side, Life is a ruler, since “As an earthly ruler commands his subordinates, saying: ‘Supervise such and such villages’, even so Life assigns to the vital breaths different functions”<sup>25</sup>. On the other side, Life is subject to the universal *Ātman* like a shadow to a person:

“Then Kausalya, son of Ashvalayana, asked him:

‘Tell me truly, Master, whence is this Life born? How does it come into this body? How does it distribute itself and how does it settle down? By what means does it go away? How does it relate to the external world? How does it relate to the internal self?’

To him he replied: ‘You are asking very difficult and lofty questions. However, as you are firmly committed to Brahman, I will therefore tell you.

This Life is born of the *atman*. As his shadow is to a person, so in this case is Life to the *atman*”<sup>26</sup>.

Now, a shadow is, first of all, an index of the presence of a person (“I’ve seen a shadow”), hence it has a metonymic more than a metaphoric character. Here, however, the Upanishad tells us that life is like a shadow, insofar it depends on, as well as it follows, the *Ātman*; the metaphor thus consists in pointing out that life is subject to the ruling role of the universal soul.

#### 4.3 Human Buildings and Settlements

Still related to human collectivities are the metaphors about human buildings and settlements.

Apart from the temple, to which for instance the human being was likened by Paul of Tarsus (1 *Cor.* 6, 19), it is the city that has drawn most attention. When the city is considered as to the roles and functions performed by its inhabitants, the city metaphor lies very near to the social and political metaphors we have already examined; however, it can also show a more anatomical or topographical character.

In philosophy, Plato supported the view that a republic is structured like the human soul; that is, the three parts of the embodied soul correspond to those characteristic of the just city and society: the rational part (*logistikon*) is likened to the government by philosophers, the irascible part (*thumetikon*) to the soldiers and guardians of the city, while the appetitive soul (*epithumetikon*) relates to the producers of goods<sup>27</sup>. In China, the elements become five, so we find in some ancient Daoist texts the metaphor by which the human body is likened to a State with its ministries and offices, which correspond to its five bowels<sup>28</sup>. In the 19<sup>th</sup> century, physiologist Claude Bernard recovered the metaphor of the city from a morphological and anatomical viewpoint:

“Let us represent the complex living being, an animal or a plant, as a city with its special character that distinguishes it from any other, as the morphology of an animal distinguishes it from any other. The inhabitants of this city represent there the anatomical elements in the organism; all these inhabitants live, eat,

breathe in the same way and have the same general faculties, those of man”<sup>29</sup>.

#### 4.4 Machines

A second, fundamental group of metaphors revolves around the concept of machine; here we find the vast literature about the mechanism-vitalism-organicism debate<sup>30</sup>, which surely cannot be tackled here.

According to Canguilhem, “it is impossible to overstate the influence of Aristotle’s use of the term *organon* to designate a functional part (*morion*) of an animal or a vegetal body such as a hand, beak, wing, root or what have you. Until at least the end of the eighteenth century anatomy and physiology preserved, with all its ambiguities, a term that Aristotle borrowed from the lexicon of artisans and musicians, whose use indicates implicit or explicit acceptance of some sort of analogy between nature and art, life and technics”<sup>31</sup>.

After Aristotle, a great variety of machines has been used to convey this idea; interestingly, each different epoch has made recourse to the most up-to-date mechanisms of its times. Oparin<sup>32</sup> has divided modern Western thought into three periods: the age of clocks, from the 17<sup>th</sup> to the first part of 18<sup>th</sup> century; the age of steam-engines, from the second part of the 18<sup>th</sup> to the 19<sup>th</sup> century; and the age of communication and control in the 20<sup>th</sup> century. This technological change has also involved a «dematerialisation» of the relevant model machines, which has led to the concept of abstract machine, in the sense of cybernetic automata or recursive mathematical functions<sup>33</sup>. Besides, the attempt is being made to abstractly devise, or materially implement, forms of Artificial life (ALife) ranging from computer simulations to sophisticated automata and robots<sup>34</sup>.

Apart from Western thought, technological metaphors can be found elsewhere. Hexa-

gram 48 of the *I Ching* is a case in point; as we have seen, it is called the well (*Ching*), and constitutes an ancient and rather intricate metaphor of the living being. Dividing it into its two trigrams, the trigram above represents the abysmal and water, while that below represents the gentle, the wind and wood. First of all, the image of wood under water recalls a system of irrigation in ancient China, based on a clay bucket filled with water and suspended high on a wood pole, so that it distributes water to the crops; second, we can also see the well as sucking water upward from the soil and distributing it to the people. In both cases, the hexagram conveys the idea of a well, or better a system of irrigation, which dispenses water, hence life, without intermission<sup>35</sup>. Here comes the similitude by which an organism is like a system of irrigation: as a well sucks water from the soil and benefits all the people of the village, so an

organism intakes food and benefits all its organs. So, we have the metaphor by which the organism is a well of nourishment. This complicated metaphor has also, as we have previously analysed, a social and political side.

As to Hindu thought,

we can remember a passage from the *Prashna Upanishad*<sup>36</sup>: “Just as spokes are affixed to the hub of a wheel, so are all things established in Life, the *Rg-* and *Yajur-* and *Sāma-Veda*, Sacrifice, the nobility, and also the priesthood”. Here, we have that *prāna*-Life stands to the universe like the hub stands to the wheel, whence the metaphor of life as the hub of the universe. Now, what does it mean that Life is the basis of all? First of all, we must recall that, according to the *Upanishads*, there are two principles that account for a living being, *Rayi* and *prāna*; whereas *Rayi* is its material basis, *prāna* is what makes a body alive or, in philosophical terms, it is its ontological principle of existence. Then, in an expansive movement, the *Upanishads* arrive at the idea that *prāna*-Life is the master of the Universe

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as well, and of all that exists in the three heavens. However, as we have seen, even *prāna*-Life is subject to other entities, first to *Ātman*, and then to *Brahman*.

## 5. Metaphors Based on Natural Phenomena

### 5.1 Universe and Earth

Many natural entities have been a source of metaphors about life and living beings.

First of all, it is the whole nature or universe that has been compared to a living being, or vice versa; according to this bidirectional interchange, we may for instance see a human being as a microcosm, or the universe as a *macranthropos*<sup>37</sup>. According to the *Huangting jing*, a Daoist text written in the 2<sup>nd</sup> or 3<sup>rd</sup> century CE, the human body is likened to a landscape inhabited by godheads. Also the illustration and text of the *Nèijing tú*, or “Inner Landscape”, show the human body as a vast territory, with the head likened to the Kunlun Mountains, where a glade is devoted to meeting with the heavenly godheads<sup>38</sup>; since this depiction also includes stars and constellations, it refers to the whole universe as a microsomography of nature<sup>39</sup>. Through the centuries, the comparison between the organism and the whole universe arrives to Bergson, tinged with a truly philosophical flavour:

“Should we wish to find a term of comparison in the inorganic world, it is not to a determinate material object, but much rather to the totality of the material universe that we ought to compare the living organism. It is true that the comparison would not be worth much, for a living being is observable, whilst the whole of the universe is constructed or reconstructed by thought. But at least our attention would thus have been called to the essential character of organization. Like the universe as a whole, like each conscious being taken separately, the organism which lives is a thing that *endures*”<sup>40</sup>.

Reversing the metaphor, the idea of the cosmos as an immense organism is almost universal. To offer just an example, in Plato’s *Timaeus* (32 ff) a long argument is devoted to

an organismic cosmogony: the universe, as a living being, was made by the Demiurge as a complete whole, made up of complete parts, unique, free of old age and disease, in the shape of a sphere spinning around upon itself; the universe ate its own waste, so it was self-sufficient.

Passing to the Earth’s systems, the most recent metaphor is given by James Lovelock’s Gaia:

“I often describe the planet ecosystem, Gaia, as alive, because it behaves like a living organism to the extent that temperature and chemical composition are actively kept constant in the face of perturbations. When I do I am well aware that the term itself is metaphorical and that the Earth is not alive in the same way as you or me, or even a bacterium. At the same time I insist that Gaia theory itself is proper science and no mere metaphor”<sup>41</sup>.

As it is evident, Lovelock makes here some confusion between scientific theories and the metaphorical use of scientific terms.

### 5.2 The Cycle and the Ouroboros

Plato’s sphere and Lovelock’s biosphere take us to another group of metaphors, at the crossroads between mysticism, mathematics and natural sciences. It is the metaphor of life as a circle or cycle, which, in a more imaginative way, takes the aspect of the Ouroboros. This is a serpent, dragon or worm which holds its tail in its own mouth, as if it were to eat itself, so shaping itself in the form of a circle. The underlying concept is that of a self-sufficient entity, whose beginning and end coincide and follow one the other.

In biology, the metaphor of life as a cycle is almost ubiquitous, all the more so if we consider that it can be hidden in such concepts as vital circle, feedback loop or self-organization.

Sometimes, the Ouroboros itself makes its appearance in biological literature; in this quote we find it associated to social metaphors as well:

“The ancient emblem representing life as a closed circle, formed by a serpent biting its own tail, gives a fairly accurate picture of

things. In complex organisms the organism of life actually forms a closed circle, but a circle which has a head and tail in this sense, that vital phenomena are not all of equal importance, though each in succession completes the vital circle. ... Here is an organic or social inter-dependence which sustains a sort of perpetual motion<sup>42</sup>.

In the 20<sup>th</sup> century, the reflection about the circularity of vital processes has been revived by Maturana, "The living organization is a circular organization which secures the production or maintenance of the *components* that specify it in such a manner that the product of their functioning is the very same organization that produces them"<sup>43</sup>.

Anyway, a perfect circularity is not in the possibility of single living beings; sooner or later, their life ends. As 5<sup>th</sup> century BC physician Alcmaeon of Croton had it, "Human beings perish because they are not able to join their beginning to their end"<sup>44</sup>. We are not Ouroboroi, after all; yet, in a certain sense, living beings can escape death through reproduction. This leads us to the other aspect of the cycle metaphor, that is, the life cycles; that it is a metaphor is clear:

"The total history of an organism is usually called its 'life history' or 'life cycle', but the latter term is a misnomer because the word 'cycle' suggests that the organism returns to some prior or initial state, which is, of course, not true. After all, death is neither a return to birth nor to fertilization"<sup>45</sup>.

So, it would be preferable to speak of life histories, life trajectories or lifelines<sup>46</sup>. However, not even reproduction can make an Ouroboros of a living being. In Hegel's words, reproduction just turns into the bad infinity of progress; in his philosophical system, universality can only be reached through the emergence of Spirit<sup>47</sup>.

### 5.3 Fire

Fire has always been a powerful metaphor of life, even to the point of giving birth to fire worship, as in the cult of Vesta or in Zoroastrianism. The ideas conveyed by the flame are multifarious; however, all of them seem to be

related to that maintenance of form, within a continuous flow of matter, which takes place in combustion. This interplay between conservation and transformation powerfully recalls conceptual couples like being and not being, or being and becoming, explaining the philosophical interest for the flame metaphor. In a famous discussion with 2<sup>nd</sup> century BC King Menander I, the Buddhist monk Nāgasena claimed that, much like a flame, man is and is not the same as time goes by, from birth to death<sup>48</sup>. In other words, man as an organism is an illusion generated by a sequence of innumerable, instantaneous and incommunicable men, something like a movie resulting from the succession of instantaneous frames.

Interestingly, the metaphor of the candle flame has been used in two opposite ways. The most common idea is that living beings are born with an endowment of fuel which is doomed to finish sooner or later, thus conducting to death:

"the old Man, 'the Man of long life', as the *Vedas* call him, the one who has lived his life, who has fulfilled his life span, his *ayus*, does not die; he does not experience a break and, thus, a trauma; he has simply consumed the torch and exhausted the fuel"<sup>49</sup>.

However, in an intriguing passage of the *Zohar*, the flame of human life has on the contrary the possibility of becoming more and more shining and perfect. Man is endowed with three grades of soul, namely the soul-*nefesh*, the spirit-*ruah* and the super-soul-*neshamah*; now, it is "*nefesh*, the lowest stirring, to which the body adheres; just as in a candle flame, the obscure light at the bottom adheres close to the wick, without which it cannot be. When fully kindled, it becomes a throne for the white light above it, and when these two come into their full glow, the white light becomes a throne for a light not wholly discernible, an unknowable essence reposing on the white light, and so in all there comes to be a perfect light"<sup>50</sup>.

The idea is, first, that there is a deep unity between body and soul(s); then, through a path of spiritual development, there may be the progressive appearance of ever higher grades

of souls, which are likened to the different regions of the candle flame.

### 6. *Metonymies of Life, in General*

Far less known than the role of metaphors in scholarship, and particularly in the sciences, is that of metonymies. Truly, they have a notable place as a rhetorical device in literature, and especially in epics; but in science the only relevant role for metonymies seems to be a polemical one. For instance, when a biologist does not agree about a given concept being applied to organisms, she may claim that there has been a metonymic mistake, a sort of displacement of focus. So, if someone thinks that the genes are the real living agents, his opponent could argue that a synecdochical error has occurred, since a part (the genes) has been mistaken for the whole (the organism). In such case, we might call this a wrong *pro* right metonymy: the genes *pro* organism metonymy is not simply a *pars pro toto* metonymy, but a wrong *pro* right metonymy, since genes are *not* organisms. Obviously, the other biologist might support the opposite claim, still in a polemical sense; or he could even speak in a heuristically provocative way, in order to awaken her opponent from his dogmatic slumber and acknowledge that the true living beings are, after all, just the genes. Thus, in science the direction in which the metonymy is used corresponds to the verse of a vector, going from the wrong to the correct terminus of the figure of speech. To be pedantic, take again the idea that the real living beings are the genes rather than the organisms. If someone does not agree, he will say that, at most, to take genes *pro* organisms is a *pars pro toto* metonymy; that is, he will claim that the proper term to be used in biology, to denote a living being, is 'organism', while its genes can be taken in the place of the organism only by a figure of speech. If someone on the contrary agrees with that idea, he or she will claim that to take organisms *pro* genes is at most a container *pro* contained metonymy, for it is clear that, properly speaking, it is the genes that really live. So, while a metaphor is judged in science ac-

ording to its usefulness or novelty, metonymies seem to have a more rigid and normative role. This might derive from the fact that metaphors are, or can be treated as, simple hypotheses: if I metaphorically claim that life is a journey, I see it *as if* it were a journey. On the contrary, metonymies are non-hypothetical, since they work by an assessable contiguity rather than through a more or less subjective similarity<sup>51</sup>.

As we have seen for metaphors, sometimes the same passage may include a bunch of interlaced figures of speech. Take for instance this passage by Dawkins:

"It is raining DNA outside. On the bank of the Oxford canal at the bottom of my garden is a large willow tree, and it is pumping downy seeds into the air. (...) The cotton wool is mostly made of cellulose, and it dwarfs the tiny capsule that contains the DNA, the genetic information. The DNA content must be a small proportion of the total, so why did I say that it was raining DNA rather than cellulose? The answer is that it is the DNA that matters. (...) It is raining instructions out there; it's raining programs; it's raining tree-growing, fluff-spreading, algorithms. That is not a metaphor, it is the plain truth. It couldn't be any plainer if it were raining floppy discs"<sup>52</sup>.

The tale begins with a DNA *pro* seed metonymy, followed by the parallel cellulose *pro* seed metonymy, which lies hidden in the question; these are both *pars pro toto*, concrete *pro* concrete and tool *pro* user metonymies. Then, we have the instruction-program-algorithm *pro* seed metonymy, which is of the abstract *pro* concrete sort. Finally, there are also the metonymy DNA *pro* information, which is a concrete *pro* abstract one; and the information *pro* instruction metonymy, a bidirectional abstract *pro* abstract metonymy; however, these two metonymies do not directly involve life or living beings. Besides, the text also contains some metaphors, as the likening of the fall of seeds to raining, and - *pace* Dawkins - that of DNA to floppy discs. In sum, we witness here a rich pattern of figures of speech, be they lyrical metaphors or epic metonymies; this might contribute to ex-

plain Dawkins' success as a writer and science populariser. But then, *what* is the plain truth Dawkins is eager to tell us? In my view, simply the fact that DNA incorporates genetic information, no more, no less.

Let us now pass on to examine some notable metonymies.

### 6.1 *Astronomical and Geographical Metonymies*

A first group of metonymies revolves around heaven and its phenomena.

In China, longevity has been likened to the Southern Hills<sup>53</sup>. Behind this metaphor there

lie two metonymies.

First, the South stands for the sun, since the cardinal point South corresponds to the maximum height in the sky reached by the sun at noon; this is thus a metonymy where a place stands for an ob-

ject there located. Then, the sun is a cause *pro* effect metonymy for life, since the sun gives and supports life.

Another instance occurs when someone speaks of heaven in the place of God, maybe in a subconscious effort to avoid taking the name of the Lord in vain. Here we have a metonymy that, in the wake of *Is* 66: 1, could be called a throne *pro* king, or less dramatically a tool *pro* user metonymy. Interestingly, in a study on an aphasic patient, Goldstein<sup>54</sup> noticed that, when asked to repeat the word *heaven* he would answer *God*, as if he could no longer escape the metonymy.

### 6.2 *Biological Metonymies*

As we have seen, a good number of life metonymies have some biological basis.

Sometimes, a part of the body is taken as a metonymy for life. For instance, the Biblical Hebrew term *nefesh*, which denotes the soul-*psyché*, i.e., the principle of life, taken literally denotes the region of the throat. So, in *Prov* 21: 23, men are advised to guard their tongue in order to save their throat; here, we have

two concrete *pro* abstract metonymies, that is, tongue *pro* words and throat *pro* life<sup>55</sup>. The mouth too has been used as a metonymy for a person; in his *Mishneh Torah*, Maimonides warned the Jews not to be too rude with proselytes: if a proselyte “comes to study the Law one must not say to him, ‘Shall the mouth that ate unclean and forbidden food come and study the Law, which was uttered by the mouth of the Lord?’”<sup>56</sup>. While speaking of a mouth that eats or utters words is speaking almost in a proper sense, to say that a mouth comes and studies the Torah is an obvious metonymy for a student.

In other circumstances, the metonymy involves a bodily fluid, especially the blood. The use of blood *pro* life is very ancient; for instance, we find in *Prov* 12: 6 that “The words of the wicked are a deadly ambush”, which in the

*Nova Vulgata* reads as “*Verba impiorum insidantur sanguini*”; here blood stands for the person whose blood could possibly be shed. Again, during the ceremony of the creation of new Cardinals the Pope reminds them that they must serve the Church *usque ad effusionem sanguinis*; here, obviously, we have the metonymy blood effusion *pro* laying down one's own life (be it with or without bloodshed), or in brief blood *pro* life. In all these cases, we face a *pars pro toto*, as well as a contained *pro* container, metonymy.

Breath, together with air and wind, is also a very ancient and widespread metonymy for life. There is no need to remember the plural meanings, values and resonances of words like *pneuma*, *ánemos* or *spiritus* in Western thought. Rather, let us have a glance into other cultural contexts. In ancient Egypt, *Ka* stood for divine breath, the principle of human personality, the living and divine part of humans and even the support of Being<sup>57</sup>. Interestingly, its hieroglyph shows two arms raised towards the heaven with open hands, which hints to a religious connection between human and divine life. In one of the

*In science the direction in which the metonymy is used corresponds to the verse of a vector, going from the wrong to the correct terminus of the figure of speech*

most beautiful Vedic hymns<sup>58</sup>, the concept of *prāna* is tightly linked to the vital breath, hence to Life. This metonymy explains why the hymn says that even foetuses breathe in and out within the womb, or that there is both a natural, biological breath and a divine Breath. However, if on one side *prāna* stands for life, on the other side, since life in Vedic thought also includes within itself its opposite, *prāna* may also stand for death. Finally, the concept of *Qi* involves, in traditional Chinese culture, a reference to breath and air<sup>59</sup>; so, *Qi*-breath stands for the force, energy or active principle of life, in a cause *pro* effect metonymy; interestingly, the metonymy may also be reversed, taking breath as an effect or operation of life.

Also in the scientific field, some biological conceptions are related to metonymies of life.

According to Pasteur<sup>60</sup>, “Life is the germ and its becoming, and the germ is life. The germ and its becoming, here is all life and all its mystery. (...) Life cannot be defined. What we can say clearly, is that life is the germ and its becoming”. Here we have something like a metonymic displacement, where the germ stands for an elementary living being, be it the first ancestral cell, or a today bacterium, or maybe even a seed or zygote; this minimal living being, being endowed with a capacity for change and development, is the basis of the genesis both of organs and bodily parts, and of intelligent and voluntary life.

The germ *pro* life metonymy brings us toward another metonymy that has gained more and more momentum in the last century. It is based on the idea that the true agents of life are not the organisms, but their genes. This conception, which is exquisitely a product of the triumphs of molecular biology, finds an antecedent in Samuel Butler, who claimed that “a hen is only an egg’s way of making another egg”<sup>61</sup>. In this aphorism, the true bearer of life is the unicellular embryo, rather than the multicellular adult; the hen is simply used by the egg as a tool to produce other eggs. This idea was bound to lead to a devaluation of the adult, paving the way to a tool *pro* user metonymy.

In the 20<sup>th</sup> century, the role played by germs and eggs passed onto DNA and genes, or, in a more abstract sense, onto genetic instructions and information. As Doyle<sup>62</sup> has pointed out, if the DNA is the signifier and the organism the signified, the organism as a totality becomes an illusion; the organism is real, but only as “a bundle of real but incomplete metonyms that come to define it as a whole”. So, the modern biological discourse articulates life as a site of differences between organisms or organs, where these differences “function as metonymies for an organism, or indeed life as whole”<sup>63</sup>. With regard to the tool metonymy, we can quote a passage by Dawkins<sup>64</sup>:

“Replicators exist. That is fundamental. Phenotypic manifestations of them, including extended phenotypic manifestations, may be expected to function as tools to keep replicators existing. Organisms are huge and complex assemblages of such tools, assemblages shared by gangs of replicators who in principle need not have gone around together but in fact *do* go around together and share a common interest in the survival and reproduction of the organism”.

This way of thinking seems to imply that in the sentence “The organism reproduces itself”, we say “organism” to actually mean “a gang of replicators inside it”. That is, the organism is a tool *pro* user metonymy for a gang of replicators inside it: the organism is the tool replicators make use of to reproduce, or better replicate, themselves. At the same time, the organism standing for the replicators is also classifiable as a *totum* (the organism) *pro parte* (the replicators), or a container *pro* contained, metonymy. Alternatively, we could see a metaphor in Dawkins’ text, namely, that an organism is like a tool: that is, the replicators stand to their organism like a user stands to its tool. Yet, I think that is more respectful of Dawkins’ thought to maintain that, according to him, organisms are not *like* tools, they indeed *are* tools; consequently, a lot of assertions in current biology ought to be rephrased in order to grant the replicators their correct status as the central agents of life. So, I think that the metonymic aspect of

his ideas is deeper than the metaphoric one. As I have said before, in some sense Dawkins is suggesting that when we endow an organism with properties like reproduction or even life we are making a metonymic mistake: the bearers, owners or agents of such properties are in a primary sense the replicators, and only in a derived sense the organisms. The real question at hand is what the fundamental bearer of life is:

“An uneasy tension disturbs the heart of the selfish gene theory. It is the tension between gene and individual body as fundamental agent of life. On the one hand we have the beguiling image of independent DNA replicators, skipping like chamois, free and untrammelled down the generations, temporarily brought together in throwaway survival machines, immortal coils shuffling off an endless succession of mortal ones as they forge towards their separate eternities. On the other hand we look at the individual bodies themselves and each one is obviously a coherent, integrated, immensely complicated machine, with a conspicuous unity of purpose”<sup>65</sup>.

Actually, Dawkins oscillates between two different views of genes, as fundamental agents of life or central agents in natural selection; the real point at stake, however, is their primacy over organisms. A solution of the riddle is afterwards proposed:

“It is finally time to return to the problem with which we started, to the tension between individual organism and gene as rival candidates for the central role in natural selection. (...) One way of sorting this whole matter out is to use the terms “replicator” and “vehicle”. The fundamental units of natural selection, the basic things that survive or fail to survive, that form lineages of identical copies with occasional random mutations, are called replicators. DNA molecules are replicators. They generally, for reasons that we shall come to, gang together into large communal survival machines or “vehicles”. The vehicles that we know best are individual bodies like our own. (...) Gene and individual organism are not rivals for the same starring role in the Darwinian drama. They are cast in different,

complementary and in many respects equally important roles, the role of replicator and the role of vehicle.”<sup>66</sup>.

So, the vehicle-organism does not replicate; it is its replicators-genes that do that; a little step forward, and we can say that it is not the vehicle that lives, but the gang of replicators inside it. And in a final effort to make his ideas as far-reaching as possible, Dawkins again proclaims not only the centrality, but even the immortality of replicators: “the individual body, so familiar to us on our planet, did not have to exist. The only kind of entity that has to exist in order for life to arise, anywhere in the universe, is the immortal replicator”<sup>67</sup>.

Maybe, this is the final outcome of a line of thought which, having once overemphasised the importance of blood, then passed to the germline, to arrive today to genes and a gene-centred view of life.

### 6.3 Religious Metonymies

Now, let me conclude this survey of metonymies with three theological cases taken from the Jewish, and partly Christian, tradition.

The first is well known. It is the fact that often, in the Bible, God is called the God of Abraham, Isaac and Jacob; here the three patriarchs are a *pars pro toto*, or a token *pro* type, metonymy, since they stand for the whole of mankind; besides, this metonymy is related to life, because, as Jesus interpreted the passage, God is the God of the quick and not of the dead (*Mat* 22: 32; cp. *Exo* 3: 6). So, here Abraham and the other ancestors (*Act* 3: 13) are a metonymy for the patriarchs, and maybe for the whole of mankind.

The second one is linked to a problem that has also been at the centre of a biological debate, namely: are single organisms really the representative members of their species? Or, where sexual reproduction takes place, should we take the couple as the minimal unit member of a species? Is then any talk about human beings only a *pars pro toto* metonymy for the human sexual couple? So answers the Zohar<sup>68</sup>

“When is “one” said of a man? When he is male together with female and is highly sanctified and zealous for sanctification; then and only then he is designated one without mar of any kind. (...) So conjoined, they make one soul and one body: a single soul through their affection; a single body, for only when male and female are conjoined do they form a single body”.

But the Zohar<sup>69</sup> contains another extraordinary idea about the couple God plus Israel, the human couple is just an image of. That is, God bestowed upon Israel

“a multitude of precepts, and with these the phylacteries of the head and the arm, which makes a man one and complete. It is only when he is complete that a man is called “one,” but not if he is lacking, and so God when he is made complete with the patriarchs and the Community of Israel, then is he called One”.

In this perspective, not only a man must be accompanied by the Torah and the phylacteries to be complete, but even when one says “God” this is only a sort of metonymy, since the real and perfect whole is God together with Israel.

## 7. From Univocity to Apophaticism

In the preceding paragraphs, the reader will have caught the relationship between our linguistic approach and the ancient theological debate about the way of speaking of God and its attributes, and among them divine life. The *quaestio de vita Dei* revolves around the univocal, equivocal and analogical ways of thinking and speaking. Now, these different ways may as such apply to philosophy and science too.

Here also we face various types of difficulties. First of all, the difficulty of speaking of God seems insuperable, especially when a person has to relate his or her intimate experience of the divinity<sup>70</sup>. Then, we have notable interdisciplinary problems. For instance, does Freud’s process of condensation, which has been likened to analogy, belong in philosophy or science? Finally, from an intercultural perspective, not all the cultures are equally inter-

ested in precisely distinguishing between proper, analogical and equivocal uses of words and sentences. In the Vedas, for instance, we can read that life is like breath, or breath stands for life; that the breath of life is separated from life, yet it is life itself; and so on<sup>71</sup>.

### 7.1 The Univocal Way

The univocal way seems to characterise science in a preeminent way. When biologists try to define terms like ‘life’ or ‘organism’, they most obviously search for a univocal definition, though they rarely succeed in reaching a universal consensus.

In philosophy, the necessity or opportunity of univocity has been advocated by various schools of thought, from enlightened rationalism to positivism, or from neopositivism to the analytic tradition in 20<sup>th</sup> century philosophy. In the East, the idea of rectifying names seems to be another instance of the univocal way, as supported by Confucius, or, in a more religious context, by the Buddha himself.

In Catholic theology, the univocal way of speaking of God’s life was strongly argued for by Duns Scotus, who based it on a more fundamental univocity of Being; that is, according to the Franciscan theologian, we can speak in exactly the same terms of the life of humans, angels and God. Curiously enough, this idea has been recently revived in philosophy by Deleuze<sup>72</sup>. In Islam, the univocal way of speaking is supported by most Athari textualists, in the wake of the ancient Salaf teaching; they claim that what one finds inside the Qur’an and the Sunnah is to be taken literally, including the attributes of God that are mentioned there<sup>73</sup>. In the Hindu tradition, we seem to face a sort of univocal speech when, in the *Kaushitaki Upanishad*, the relationship between temporal and eternal life is tackled:

“Indra said: I am Life, the conscious Self. Reverence me as temporal life and also as immortality. Life is temporal life and temporal life is Life. Life is also immortality. For as long as Life remains in the body there is temporal life. By Life man attains immortality in

this world and by consciousness true thinking. Whoever reveres me as temporal life and as immortality - Lives out in this world his full life span, and attains immortality and indestructibility in the world of heaven”<sup>74</sup>.

### 7.2 *The Equivocal Way*

The scientific discussion about life implicitly refers to the equivocal way in the debates about other possible life-forms in the universe. For instance, if a life not based on carbon existed, could we still speak of a *biological* form of life? Or would it be so heterogeneous to the life of terrestrial type as to require a new discipline?

In philosophy we sometimes find hints of an equivocal concept of life. For instance, *The Four Books* record an ancient debate between Gaozi, supporter of an univocal conception of life, and his opponent Mencius: in particular, Gaozi’s point “is that all things *sheng*, alive with perception and movement, have the same nature. Mencius finds this proposition ludicrous, suggesting that whereas dogs, oxen, and human beings all do indeed perceive and move, it can hardly be claimed that they all have the same nature”<sup>75</sup>.

In theology, Maimonides seems in some points of his work to make recourse to equivocity in discussing God’s life as compared to natural living beings. So he writes: “If the Creator lived as other living creatures live, and His knowledge were external to Himself, there would be a plurality of deities, namely: He himself, His life, and His knowledge. This, however, is not so. He is One in every aspect, from every angle, and in all ways in which Unity is conceived. (...) Scripture, accordingly says ‘By the life of the Eternal’. The phrase employed is ‘As God lives’; because the Creator and His life are not dual, as is the case with the life of living bodies or of angels”<sup>76</sup>.

Since God’s life is not like that of the living creatures, here ‘life’ is used in an equivocal sense. However, God’s life being absolutely beyond our capacity to conceive it, Maimonides ultimately supports, as we will see below, a version of apophaticism.

### 7.3 *The Analogical Way*

Analogy, as a way of thought and research, has proved one of the fundamental tools of human culture. Wherever the complexity of a concept overrides the possibility of a univocal treatment, analogy immediately springs up as a way of dealing with it. This seems to be the case with life and living beings: “A complex figure, like that of the idea of organism, in its different analogical uses, and in its diverse domains of usage, cannot be reduced to the univocity of a concept”<sup>77</sup>.

In the philosophy of the organism, Kant discussed the recourse to analogy to grasp the gist of the organised products of nature (*Naturprodukt*):

“We do not say half enough of nature and her capacity in organized products when we speak of this capacity as being the *analogue of art*. (...) We might perhaps come nearer to the description of this impenetrable property if we were to call it an *analogue of life*. But then either we should have to endow matter as mere matter with a property (hylozoism) that contradicts its essential nature; or else we should have to associate with it a foreign principle *standing in community* with it (a soul). But, if such a product is to be a natural product, then we have to adopt one or other of two courses in order to bring in a soul. Either we must presuppose organized matter as the instrument of such a soul, which makes organized matter no whit more intelligible, or else we must make the soul the artificer of this structure, in which case we must withdraw the product from (corporal) nature. Strictly speaking, therefore, the organization of nature has nothing analogous to any causality known to us”<sup>78</sup>.

As it is known, Hegel started from this Kantian conception to return to Aristotle, who had based the fundamental determination of the living being in the fact that it operates according to purposes, which need not to be intentional or conscious<sup>79</sup>.

The great supporter of the *analogia entis* in the theology of divine names is Thomas Aquinas. In his early commentary on the *Sentences*, Thomas argued that the analogy of im-

itation is the proper way to speak of divine attributes; it consists in recognising that human life imitates or reflects God's life. Then, in *De Veritate*, he claimed that divine names are correctly spoken of through the analogy of proportionality, by which we can state that human life stands to man as divine life stands to God. Finally, in his mature works Thomas argued for an analogy of attribution linked to causality: more than passively imitating or reflecting God, creatures are the object of an active transmission of properties from God, through His active causal agency<sup>80</sup>.

After Thomas, Francisco Suárez advanced a classification of analogies which can be used to better delineate Thomas' ideas<sup>81</sup>. Suárez distinguished two main types of analogy, each of them comprising two subtypes. The first type is the analogy of proportionality, which occurs when a term is referred to various entities, proportionately to their degree of being. This analogy can be subdivided into two varieties. In the analogy of proportionality proper, the property which is being predicated is possessed by all the analogates; according to Thomas Cajetan, this is the analogy that Thomas would have applied to God's life; the basis would be *In I Sent.*, 19, q. 5, a. 2, ad 1, where we find that goodness stands to man as it stands to God. In the analogy of metaphorical proportionality, on the contrary, the property is not present in all the analogates, as when we apply the word 'dog' to *Canis familiaris* and to the constellation *Canes Venatici*. The second type of analogy is by attribution *secundum prius et posterius*; here, the property is possessed by the primary analogate, but not necessarily by the secondary ones. The analogy of attribution is extrinsic if only the primary analogate possesses that property; for instance, we can call healthy both an animal and its food, but the food is healthy only in a secondary way, since it con-

tributes to the health of the animal; so, the animal possesses health, while the food is healthy only with reference to that animal (while the same food could be a poison to another animal). On the contrary, in the analogy of intrinsic attribution the property at stake is possessed by all the entities involved. This last type of analogy is that which Thomas used in his mature works: true, life is possessed both by plants, humans, angels and God, but all creatures possess life only by God's equivocal causation<sup>82</sup>. For instance, as we have seen God is the causal agent of human life, according to the principle by which *omne agens agit aliquid simile sibi*; however, human life is not proportionate to God's life. Human life bears some resemblance with divine life, but only within an even wider dissimilarity; humans possess life in a

relationship of dependence and posteriority with respect to God's life.

Some type of analogy seems to be at play also in the Islamic doctrine of the difference, which however ends in a form of agnosticism; with regard to the ques-

tion of Allah's attributes, "Classical Muslim theology developed a form of compromise solution in effect inclining to the negative answer. There developed the idea of *Al-Mukhalafah*, 'the difference'. Terms taken from human meanings – and there are of course no others – were said to be used of God with a difference. (...) But only God knows what they signify. Muslim theology coined the related phrases *Bilā Kaif* and *Bila Tashbih*. We use these names 'without knowing how' they apply and without implying any human similarity"<sup>83</sup>.

#### 7.4 Apophaticism

In theology, equivocation has often been linked to the impossibility of thinking and speaking of God's life, hence to apophaticism, while the univocal discourse would

*Thomas Aquinas argued that the analogy of imitation is the proper way to speak of divine attributes; it consists in recognising that human life imitates or reflects God's life*

lead to an impatient cataphatism. However, equivocation does not by itself involve that any predication about one of the analogates is impossible; it simply implies that we cannot predicate the same perfection for two heterogeneous entities. Only when any predication is declared impossible we properly attain to apophaticism, which in theology is also called *via negativa*: we cannot say anything positive about God's life; at most, we can tell what God's life is not. So, even in this case apophaticism does not imply aphasia; as Buber put it, with regard to the unsuccessful attempts to convey through words the mystical experience, "we say Lord, Lord, and we have lost him. But that is how it is with us: We have to speak"<sup>84</sup>. Apophaticism in its various declinations is widespread among religions, often at the boundary with philosophy.

In Christian theology, John Scotus Eriugena claimed that not only we cannot know the essence of God and of His life, but He is incomprehensible even to Himself; in fact, if He adequately knew Himself, that divine knowledge would place God in some gnoseological category, thus limiting His divinity in an unacceptable measure<sup>85</sup>. This view, derived from Proclus and the Pseudo-Dionysius, led Eriugena to think that divine names can only metaphorically be applied to God.

In the Jewish tradition, Maimonides supported apophaticism about God and His life, firmly stating in his *Guide* that "it is clear that He has no positive attribute whatever. The negative attributes (...) convey to man the highest possible knowledge of God; e.g., it has been established by proof that some being must exist besides those things which can be perceived by the senses, or apprehended by the mind; when we say of this being, that it exists, we mean that its non-existence is impossible. We then perceive that such a being is not, for instance, like the four elements, which are inanimate, and we therefore say that it is living, expressing thereby that it is not dead. (...) We thus learn that there is no other being like unto God, and we say that He is One, i.e., there are not more Gods than one"<sup>86</sup>.

Islam also knows various schools of negative theology, or *lahoot salbi*. For instance, Wasil ibn Ata founded in the 8<sup>th</sup> century the Mu'tazili school of Kalam, whose adherents were called the Mu'attili, since they made ample use of negation, or *ta til*, in their theological arguments. But it is within the Sufi tradition that we find perhaps the most notable examples of apophaticism. For instance, Ibn 'Arabī (1165-1240) introduced the mystic way of the 'polishing of the mirror': "While looking at a smudged mirror the viewer sees the glass. If the mirror is polished, a shift occurs. The glass becomes invisible, with only the viewer's image reflected. Vision has become self-vision"<sup>87</sup>. In this way, the mystic may get beyond any distinction between self and not-self, subject and object. With regard to the divine attributes, among which Ibn 'Arabī often quotes life, one has to distinguish between these "most beautiful names" and their instantiations; these last take place either within the divine mind, as nonexistent pure relations, or within the world, as existent entities; now, it is only when the mirror has been polished that they may be refracted and reflected into the faithful<sup>88</sup>. So, "The theological issues of divine names and divine image cannot be resolved through rational speculation, but the image can be glimpsed in the polished mirror through that "art of apprehension" that originated in divine unveiling (*kashf*). In mystical terms, the image appeared at the moment of mystical union. In semantic terms, it is "apprehended" as the meaning event when the dualisms of self-other, time, and space are temporarily fused through the collapse of the semantic structures that reflect them. In other kinds of discourse, or other moments of apophatic discourse, we can distinguish the event (the act of predication) from the meaning (as sense and reference, the "what" and "what about?"). In mystical dialectic, when predication and reference become realization, there can be no distinction between meaning and event. The divine names, as Ibn 'Arabi explains, are not ontological items (*'umūr wujūdiyya*). They have no existence independent of the world and the polishing of the mirror"<sup>89</sup>.

In the East, theological and philosophical ideas easily intermingled in the debate about the relationship between language and reality. For instance, the great Hindu philosopher Adi Shankara supported in the 8<sup>th</sup> century CE the view that Brahman, which is both unborn and undying, is also, “because of the inadequacy of all epithets, best described negatively, by *no! no!*”<sup>90</sup>; thus, in the path towards Brahman, not only the theological language, but any form of human utterance must be abandoned. Buddha’s transcendental apophaticism<sup>91</sup> has on the contrary more to do with a pragmatic way of tackling spiritual growth seriously; as the early Buddhist sacred texts record, he taught that metaphysical questions must not even be addressed, not because the answer is impossible, but since they are useless in the path towards Nirvana. That is why he left apart the fourteen, or ten according to the Pali Canon, unanswerable questions, among them the problem of life after death and the nature of the soul of living beings. In a more philosophical way, Laozi proclaimed in his *Tao Teh Ching* (I, 1) that “The Tao that can be trodden is not the enduring and unchanging Tao. The name that can be named is not the enduring and unchanging name”<sup>92</sup>. However, we can conceive the Tao in two different but complementary ways, and in both of them it engenders the universe and the living creatures: “(Conceived of as) having no name, it is the Originator of heaven and earth; (conceived of as) having a name, it is the Mother of all things”. So, all creatures live through the One, that is, the Tao, and “without that life, creatures would pass away”<sup>93</sup>. On his part, Confucius was sceptical about the possibility of knowing what life is; thus, he would raise the question of how could one ask what death is, since nobody yet knows what life is<sup>94</sup>.

For what concerns science, we cannot obviously speak of an apophatic conception of life, since science has as among its tasks precisely that of *saying* something about its objects of study. However, here and there various biologists have declared the impossibility to define or know life, in an often renewed proposal of Du Bois-Reymond’s

*ignoramus et ignorabimus*<sup>95</sup>. Just to limit ourselves to the 20<sup>th</sup> century, Pirie<sup>96</sup> arrived to proclaim the very meaninglessness of the terms ‘life’ and ‘living’. More recently, Maturana and Varela have admitted that today biologists “are uncomfortable when they look at the phenomenology of living systems as a whole. Many manifest this discomfort by refusing to say what a living system is”<sup>97</sup>. And in a conference held to inaugurate the year 2000, Jacob declared that the question of what life is has no answer, being particularly difficult, if not impossible, to define life<sup>98</sup>; so, he confirmed his former opinion that the operational value of the concept of life, as well as its power of abstraction, have by now vanished<sup>99</sup>.

## 8. *The Ways of Theology and the Figures of Speech*

It is time now to compare our reflection about the metaphors and metonymies of life with the distinction between the various forms of ‘-vocity’, that is, the different ways of speaking about life, and in particular God’s life.

### 8.1 *The Three Ways, plus Apophaticism*

To begin with, there is simply no trope for the univocal way, since the proper sense of a word, by definition, is not a figure of speech. Also about apophaticism, though there are some figures of speech which consist in a suppression of linguistic content, like aphaeresis or aposiopesis, I think that it is more appropriate not to assimilate theological silence to a figure of speech. Apophaticism represents, in its best expressions, a profound form of respect for God’s distance, a silence pregnant with virtualities and potentialities, a stillness laden with love and fear of God, a mute voice crying in darkness; and though darkness, or mist and clouds, are also metonymies for something unspeakable, nothing could be more distant from mere rhetorical *ornatus* than these utterances.

As to the equivocal way, at first glance it could be compared to the use of metaphors. And actually, if we read Rahner<sup>100</sup>, he quotes

as an instance of an equivocal word the standard case of ‘star’, in its proper reading as a celestial body and in its metaphorical sense of a movie actor or actress. Now, this is rather surprising, because both in the philosophy of language and in linguistics the metaphors are placed on a par with analogy. So, what trope could the *analogia entis* be linked to? If we think about the analogical way of speaking of God’s life, with respect to human life, where could we classify this use from the viewpoint of rhetoric? This is a very fascinating question, and I think it leads us to the field of metonymy. That is, human and divine life could be seen, from different standpoints, as metonymies of each other. In order to better understand the way in which *analogia entis* is used in theology, we will start by noting that God’s life is a very common concept in Sacred Scriptures like the Bible. Without pondering too much over the reason why the sacred author chose to use sentences like God’s life, we simply take this as a biblical theological datum, thus proceeding to analyse it. This, by the way, was the path Thomas walked on, taking for granted the biblical revelation and going on with his reflection. So, how can we predicate, tell something about, or speak about, this mysterious divine life, which is so abundantly present in the revelation(s)? I will offer two seemingly different, but in the end very similar, working hypotheses, mainly based on Christian theology.

## 8.2 The Proportional Metonymy

The first viewpoint starts with the proportion by which

*man : life = God : life.*

This proportion implies, first, that man and God are similar insofar as both are living, and second, that man is like God in his living, and God is like man in His living.

But then, we recognise that this similarity is accompanied by a still deeper difference<sup>101</sup>.

So, we make a correction:

*God : divine life = man : human life.*

This new proportion again implies that man and God are similar insofar both are living;

yet, man and God are even more dissimilar, since God and His divine properties surpass not only humans and human properties, but also the human capacity to think, understand and talk about God and His properties. Then, though man is like God in his living, and God is like man in His living, the proportion also implies that man’s life and God’s life are even more dissimilar; this is why we specify that God’s life is a *divine* life, very different from *human* life. In other words, at the beginning we possess only a univocal notion of life, taken from the observation of humans (leaving apart bacteria, plants and so on). So, we do not feel the necessity to specify that our notion denotes *human* life; we are convinced that it is sufficient to speak of life *simpliciter*, since we do not know of any other type of life. When we apply this first notion of life to God, God’s life will be modelled in the image and likeness of life *simpliciter*. Since what we take for life *simpliciter* actually is only *human* life, we are implicitly maintaining that God’s life is a *human* life, a life of *human* type. In other words, presently the archetypal type of life is *human* life.

Yet, as we have said above, we soon realise that it is better to make a distinction between God and humans. This is the moment to start speaking of a *divine* life both similar to, and dissimilar from, *human* life. More notably still, we have also to acknowledge that human life, though preceding divine life from a linguistic viewpoint, is logically and ontologically posterior to divine life. So, while we had previously maintained that God’s life is like human life, we have now to say that – logically and ontologically – it is human life to be somehow like God’s life. That is, *human* life is a deprived, reduced, deficient type of life, when compared with the archetypal *divine* life; this conception corresponds to Thomas’ mature ideas about equivocal causation in the *analogia entis*. We can even use some typographical device to differentiate these two types of life. In our first effort, we have written God’s life and human life. Yet, on second thought, we pass to God’s Life (that is, life *par excellence*) and human «life» (that is, a so-to-speak life), or divine Life and human «life». Finally, we

can simply write Life to denote divine Life, and «life» to denote human «life».

The correct relationship between Life and «life» is a relationship of the Founder to the founded, the Cause to the effect, the Origin to the originated, the Creator to the creature, the Absolute to the relative, the Necessary to the contingent, the Author to His work, and so on. Now, the interesting point is that these kinds of relationship pertain more to the metonymic than to the metaphoric field.

So, the sentence

*the life of my daughter*

ought rather to be written

*the «life» of my daughter*

and it should be understood, in scholastic terms, as the first act of my daughter, insofar as it partakes in Life, is founded in Life, is an effect of Life, since “in Him we live and move and have our being” (*Acts* 17: 28). If we now take the two sentences:

*the life of humans* (1),

*the life of God* (2),

once we have realised that they should instead be written:

*the «life» of humans,*

*the Life of God,*

we can say that in (2) the word *life* is a metonymy, because in (2) the founded «life» is used in the place of the Founder *Life*.

So, when dealing with the *quaestio de vita Dei* from the viewpoints of linguistic and rhetoric, we have something like a proportional metonymy<sup>102</sup>. We have a metonymy, since we take the founded for the Founder, the effect for the Cause, what has been participated for what is being participated. But we have also a proportion, in the sense that God (the Founder Being) stands to man (the founded being) as Life stands to «life».

### 8.3 Again on a Cause pro Effect Metonymy

As I have said before, let us now tackle the question of human and divine life from another perspective. Again, we start with the univocal way of speaking, imagining a path toward a deeper understanding of divine attributes. So, let us say suppose that some humans live their lives, speak of their lives, and

at a certain point start to apply the term ‘life’ also to their God, be it by way of revelation or reasonment; life is here taken *simpliciter*, in a univocal reading:

*God’s life.*

Then they feel that God is always beyond human words and concepts, so the preceding sentence gets challenged, and it is claimed that to speak of life both for God and man amounts to speak in an equivocal way. Eventually, those humans recognise a third possibility. That is, they realise that God is endowed with a property  $x$  or, to speak in a traditional way, with an attribute, name or perfection  $x$ , that stands to Him in the same relationship in which life stands to man. Calling *life*<sub>1</sub> the life of humans, we have:

*man* : *life*<sub>1</sub> = *God* :  $x$

Now, how to call  $x$ ? We may call it *life*<sub>2</sub>, in order to remind ourselves that *life*<sub>2</sub> is different from *life*<sub>1</sub>, but also in order to attribute *life*<sub>2</sub> both to humans and to God:

*man* : *life*<sub>2</sub> = *God* : *life*<sub>2</sub>

In other words, there is a difference between the intension of *life*<sub>1</sub> and *life*<sub>2</sub>, however within the proportion:

*man* : *life*<sub>1</sub> = *God* : *life*<sub>2</sub>

The situation is comparable to the two following arithmetical proportions:

$2 : 4 = 3 : 6$

$2 : \text{the double of the preceding number} = 3 : \text{the double of the preceding number}$

That is, though 4 is different from 6, I can attribute a *double* both to 2 and to 3.

Now, what type of figure of speech are we using, in attributing *life*<sub>2</sub> to God? That a figure of speech is at play, there is no doubt, since we are not speaking univocally. We could even ask ourselves, by way of a principle of linguistic and typographical economy, what figure of speech allows us to say that both humans and God live *life*, with no subscripts. Evidently, it all depends on the relationship holding between *life*<sub>1</sub> and *life*<sub>2</sub>. If it is a similarity, we will have a metaphor, while if it is a contiguity, we will have a metonymy. Now, the relationship is not of similarity, or at least, it is not a full-fledged similarity (again recalling the Fourth Lateran Council). On the contrary, there are various important contiguities:

$life_1 : life_2 = effect : cause$

$life_1 : life_2 = founded : founder$

$life_1 : life_2 = entity\ that\ has\ been\ participated : entity\ that\ is\ being\ participated$

So, a metonymic relationship seems at work. That is, from a rhetorical viewpoint, one can say either that *life<sub>i</sub>* - or briefly *life* - is attributed to God thanks to an underlying *effect pro cause* metonymy (*life<sub>1</sub>* for *life<sub>2</sub>*); or that *life<sub>i</sub>* - or briefly *life* - is attributed to man thanks to an underlying *cause pro effect* metonymy (*life<sub>2</sub>* for *life<sub>1</sub>*).

To complete the picture, let us clarify the priority of these different types of life from three possible viewpoints. From a gnoseological viewpoint, *life<sub>1</sub>* is prior to *life<sub>2</sub>*, since humans proceed from what is more to what is less known. From the ontological viewpoint, on the contrary, *life<sub>2</sub>* is prior, since it causes and founds *life<sub>1</sub>*. And what about the linguistic and rhetorical viewpoint? Here, *life<sub>1</sub>* and *life<sub>2</sub>* stand on the same level, since we can take the metonymy in both directions, namely, both as a *cause pro effect* and as an *effect pro cause* metonymy; as I told before, various figures of speech are characterised by some reversibility.

#### 8.4 The Vital Connection

So, I have presented two metonymic perspectives on the relationship between human and divine life. At the core of this metonymic relationship stands, in an appropriate sense to be clearly distinguished from efficient causation, the causal relationship between God and man; that is, the fact that humans are rooted in, dependent on, and secondary with respect to, their God. And after all, what is Christian life if not making explicit this foundation? If “I live, no longer I, but Christ lives in me; insofar as I now live in the flesh, I live by faith in the Son of God who has loved me and given himself up for me” (*Gal 2: 20*), then the inhabitation of Christ within the faithful is a concrete instance of the depend-

ence of human life on God’s life. To be christened or to be a Christian amounts to recognise, to make plain this vital connection between man and God, by which a human being is grafted into the mystical body of Christ.

So, we have completed our study of the metonymical aspects of the *quaestio de vita Dei*. It is not a simple matter, as it involves multiple and interdisciplinary levels of analysis. In the end, one is even tempted to admit the need of a new kind of trope, in order to name in rhetoric and linguistics what in philosophy and theology has been traditionally called *analogia entis*.

#### 9. Conclusions

In the course of this research, I have come to suspect that the hardest problems, in the relationship between language and reality, are posed by univocity, rather than by analogy or equivocity. For, can we really utter words, compose sentences and talk to each other about reality in an absolutely univocal, literal or proper way? Or do we always find ourselves plunged into enigmas and uncertainties, when we speak or indeed when we approach that reality we are a part of? If we now know only *per speculum in aenigmate* (*Cor I, 13: 12*), will we not think and speak in a similar way? If we take the guillemets (⌘) as the typographical device to signal a non-literal use of a word, maybe we need not put the world in brackets, in the wake of Husserl. We had better put the world, or better our discourse about it, in guillemets.

Another fact that I have met with is the importance of the “beyond”, the Greek *metà*. We have centred our analyses around metaphor and metonymy, but we have also implicitly spoken in terms of metaphysics and metalanguages. There is, I think, a human *Streben* which underlies this research, and which more deeply lies at the core of the human endeavour; that is, we humans feel an

*The hardest problems in the relationship between language and reality are posed by univocity, rather than by analogy or equivocity*

urgency to go beyond any achieved position, to surpass our own limits, to get to a higher reality; undoubtedly, our heart is restless: *fecisti nos ad te et inquietum est cor nostrum donec requiescat in te*<sup>103</sup>.

As Spinoza once put it, the wisdom of a free man “is not a meditation upon death but upon life”<sup>104</sup>. We could go even beyond this, and claim that the meditation upon life should flow into praise: as we read in the *Kaushitaki Upanishad*<sup>105</sup>, “Therefore one should meditate on this as a praise”.

#### NOTE

<sup>1</sup> Pontifical Athenaeum “Regina Apostolorum” (Roma). Email: ramellini.pietro@inwind.it.

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<sup>3</sup> K. RAHNER, *Theology and the Arts*, Thought, 57, 1982, 17-29.

<sup>4</sup> P. RICOEUR, *The Rule of Metaphor*, Routledge, London 1975 [2003].

<sup>5</sup> MERRIAM-WEBSTER, *Webster’s Third New International Dictionary of the English Language*, Könemann, Cologne 1961.

<sup>6</sup> *Ibidem*.

<sup>7</sup> B. K. WALTKE, *The Book of Proverbs: Chapters 15-31*, Eerdmans, Grand Rapids, MI-Cambridge 2005, 6.

<sup>8</sup> R. JAKOBSON, *Saggi di linguistica generale*, Feltrinelli, Milano [1966], 208-209.

<sup>9</sup> G. LAKOFF & M. JOHNSON, *Metaphors We Live by*, U. Chicago P., Chicago 1980.

<sup>10</sup> P. RICOEUR, *The Rule of Metaphor*, Routledge, London 1975 [2003].

<sup>11</sup> J.-E. SCHLANGER, *Les métaphores de l’organisme*, Vrin, Paris 1995.

<sup>12</sup> R. C. LEWONTIN, *Gene, organismo e ambiente*, Laterza, Roma-Bari 1998, 4.

<sup>13</sup> S. ROSE, *Lifelines*, Oxford U. P., New York 1997, 50.

<sup>14</sup> J. G. MILLER, *Living Systems*, McGraw-Hill, New York 1978, XIV.

<sup>15</sup> E. HAECKEL, *Anthropogénie*, Reinwald, Paris 1874 [1877a], 41, 98, 100; ID., *Histoire de la création des êtres organisés d’après les lois naturelles*, Reinwald, Paris [1877b], 168.

<sup>16</sup> A. LWOFF, *L’ordre biologique*, Gerard & Co., Paris [1970], 182.

<sup>17</sup> R. DAWKINS, *The Selfish Gene: 30<sup>th</sup> Anniversary Edition*, Oxford U. P., New York 2006, 46.

<sup>18</sup> J.-E. SCHLANGER, *Les métaphores de l’organisme*, cit.

<sup>19</sup> R. WILHELM & C. F. BAYNES, *The I Ching*, Princeton U. P., Princeton, NJ 1967, 186.

<sup>20</sup> PIO XII, *Encyclical Mystici Corporis*, n. 25.

<sup>21</sup> *Col. I*, 18.

<sup>22</sup> Rom. XII, 5. PIO XII, *Encyclical Mystici Corporis*, nn. 13-14.

<sup>23</sup> G. CANGUILHEM, *Il normale e il patologico*, Einaudi, Torino 1966 [1998], 212, my transl.

<sup>24</sup> J. H. WOODGER, *Biological Principles*, Routledge & Kegan-Humanities P., London-New York 1967<sup>2</sup>, 452.

<sup>25</sup> R. PANIKKAR, *The Vedic Experience*, Motilal Banarsidass, Delhi 2001, 213.

<sup>26</sup> *Ibid.*, 212-213.

<sup>27</sup> PLATO, *Republic*, IV, II, 434 ff.

<sup>28</sup> E. BIANCHI, *Taoismo*, Mondadori-Electa, Milano 2009, 200.

<sup>29</sup> C. BERNARD, *Leçons sur les phénomènes de la vie communs aux animaux et aux végétaux*, vol. 1, Baillière, Paris 1878, 356, my transl.

<sup>30</sup> A. PICHOT, *Histoire de la notion de vie*, Gallimard, Paris 1993.

<sup>31</sup> G. CANGUILHEM, *Ideology and Rationality in the History of the Life Sciences*, MIT P., Cambridge, MA 1988, 128-129.

<sup>32</sup> A. I. OPARIN, *Life, its Nature, Origin and Development*, Oliver & Boyd, Edinburgh 1961, 14.

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<sup>35</sup> R. WILHELM & C. F. BAYNES, *The I Ching*, Princeton U. P., Princeton, NJ 1967, 186.

<sup>36</sup> II, 6; R. PANIKKAR, *The Vedic Experience*, cit., 212.

<sup>37</sup> See e.g. PHILO of ALEXANDRIA, *Quis heres*, n. 155.

<sup>38</sup> K. M. SCHIPPER, *The Taoist Body*, U. California P., Berkeley, CA 1993, 100-112.

<sup>39</sup> J. NEEDHAM, *Science and Civilisation in China*, vol. 5, Cambridge U. P., Cambridge 1983, 114.

<sup>40</sup> H. BERGSON, *Creative Evolution*, Holt & Co., New York 1907 [1911], 15.

<sup>41</sup> J. LOVELOCK, *GALA: The Practical Science of Planetary Medicine*, Gaia Books, London 1991, 6.

<sup>42</sup> C. BERNARD, *An Introduction to the Study of Experimental Medicine*, Dover, New York 1865 [1927], 88.

<sup>43</sup> In H. R. MATURANA - F. J. VARELA, *Autopoiesis and Cognition*, Reidel, Dordrecht 1980, 48.

<sup>44</sup> *Fragm. 2*, quoted in H.-G. GADAMER, *Dove si nasconde la salute*, Cortina, Milano 1993 [1994], 108.

<sup>45</sup> M. MAHNER - M. BUNGE, *Foundations of Biophilosophy*, Springer, Berlin-Heidelberg-New York 1997, 15.

<sup>46</sup> S. ROSE, *Lifelines*, Oxford U. P., New York 1997.

<sup>47</sup> G. W. F. HEGEL, *Enzyklopädie der philosophischen Wissenschaften im Grundrisse*, Oswald, Heidelberg 1830<sup>3</sup>, § 367-376.

<sup>48</sup> J. L. BORGES, *Cos’è il buddismo*, Newton Compton, Roma 1976 [1995], 51 ff.

<sup>49</sup> R. PANIKKAR, *The Vedic Experience*, cit., 482.

<sup>50</sup> G. SCHOLEM (ed.), *Zohar*, Schocken Books, New York 1963, 19.

<sup>51</sup> G. LAKOFF & M. JOHNSON, *Metaphors We Live by*, U. Chicago P., Chicago 1980.

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- <sup>58</sup> *Atharva-Veda* XI, 4.
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- <sup>63</sup> *Ibid.*, 82.
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- <sup>66</sup> *Ibid.*, 253-254.
- <sup>67</sup> *Ibid.*, 266.
- <sup>68</sup> G. SCHOLEM (ed.), *Zohar*, Schocken Books, New York 1963, 89-90.
- <sup>69</sup> *Ibid.*, 89.
- <sup>70</sup> M. BUBER, *Ecstatic Confessions*, Syracuse U. P., Syracuse, NY 1996.
- <sup>71</sup> R. PANIKKAR, *The Vedic Experience*, cit., 204 ff.
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- <sup>73</sup> J. L. ESPOSITO (ed.), *The Oxford History of Islam*, Oxford U. P., New York 1999, 289 ff.
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- <sup>85</sup> *Periphyseon*, II, 589.
- <sup>86</sup> MAIMONIDES, *The Guide for the Perplexed*, Routledge, London [1904], 82-83.
- <sup>87</sup> M. A. SELLS, *Mystical Languages of Unsayng*, U. Chicago P., Chicago 1994, 63.
- <sup>88</sup> *Ibid.*, 70-71.
- <sup>89</sup> *Ibid.*, 88.
- <sup>90</sup> B.-A. SCHARFSTEIN, *A Comparative History of World Philosophy*, State U. New York P., Albany 1998, 375.
- <sup>91</sup> R. PANIKKAR, *The Silence of God*, Orbis Books, Maryknoll, NY 1989.
- <sup>92</sup> J. LEGGE, *The Tao Teh King*, Clarendon P., Oxford 1891, 1.
- <sup>93</sup> *Ibid.*, II, 39.
- <sup>94</sup> W. LAI, «Life and Death, Chinese Philosophy of», in O. LEAMAN, *Encyclopedia of Asian Philosophy*, Routledge, London-New York 2001a, 320.
- <sup>95</sup> E. H. DU BOIS-REYMOND, *Über die Grenzen des Naturerkennens*, Veit, Leipzig 1872.
- <sup>96</sup> N. W. PIRIE, «The Meaninglessness of the Terms Life and Living», in J. NEEDHAM - D. E. GREEN, *Perspectives in Biochemistry*, Cambridge U. P., Cambridge 1937, 11-22.
- <sup>97</sup> H. R. MATURANA - F. J. VARELA, *Autopoiesis and Cognition*, cit., 74.
- <sup>98</sup> F. JACOB, «Qu'est-ce que la vie?», in Y. MICHAUD, *La Vie*, O. Jacob, Paris 2002, 9.
- <sup>99</sup> ID., *La logique du vivant*, Gallimard, Paris 1970, 320.
- <sup>100</sup> K. RAHNER, *Foundations of Christian Faith*, Crossroad, New York 1976 [1987], 72.
- <sup>101</sup> This was also defined by the Fourth Lateran Council, Denzinger 806: “inter creatorem et creaturam non potest tanta similitudo notari, quin inter eos maior sit dissimilitudo notanda”. Compare this with Maimonides: “of whatever we say intending to magnify and exalt, on the one hand we find that it can have some application to Him, may He be exalted, and on the other we perceive in it some deficiency” (*Guide*, I, 59; in I. TWERSKY, *A Maimonides Reader*, Behrman, Springfield, NJ 1972, 71).
- <sup>102</sup> U. ECO, «Metafora», in *Enciclopedia*, vol. 9, Einaudi, Torino 1980, 214.
- <sup>103</sup> AUGUSTINE, *Confessiones*, I, 1.
- <sup>104</sup> *Ethica*, IV, 67; B. SPINOZA, *Ethica*, Oxford U. P., London [1923], 235.
- <sup>105</sup> III, 3; in R. PANIKKAR, *The Vedic Experience*, cit., 195.