Transactions of The Luventicus Academy

supplement dedicated to the dissemination of the works of Juan José Luetich

ISSN 1666-7573
Online version: www.luventicus.org/transactions/jjluetich

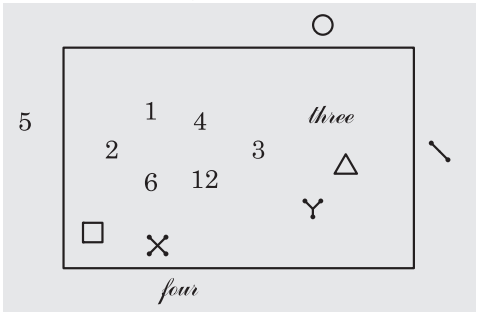
Volumen I – Issue 2 Rosario – July 14th, 2012

Glossary of Ontology

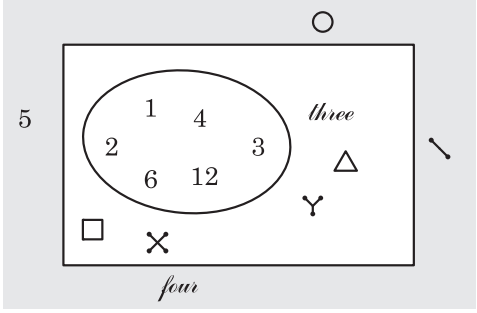
In the previous issue for this volume a naive introduction to ontology was made. Now is the time to further clarify the terms already used and to introduce others.

To be and being: **1.** For the verb "to be" there are two cases: **a.** that it has no meaning, as when it is said that "3 is a divisor of 12" ("3, divisor of 12"), i.e. *to be something,* or **b.** that it has the meaning of *to exist,* as when it is said that "3 is", i.e. *to be in an abstract sense,* in which case it cannot be omitted. **2.** For the noun "being," accordingly, there are two possibilities: **a.** that it stands for *something that is not hidden,* i.e. *something that belongs to a set,* or **b.** that it means *something that is,* i.e. *something that exists.* In either case, the word "being" is the equivalent of *entity.* Therefore, entities are beings. In set theory, entities are called *elements.* It is not advisable to use the word "thing" as a synonym to the noun "being" since doing so would restrict its meaning. Observe that the combination of the noun in the sense **2b** and the verb in the sense **1b** lead to the expression: "The being is."

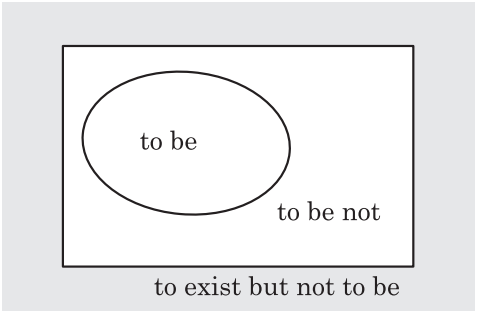
To be, to be not and not to be: (Here, the verb "to be" is used as described in **1a**.) The human mind performs two consecutive actions: (i) it focuses on certain entities;



and (ii) it groups some of them by applying a selection criterion.



The first action is unavoidable, given the limitations of the mind, to which some self-imposed restrictions to consider only certain specific entities may be added. The second is the result of comparison, convenience or convention. Consequently, the whole is divided into three parts: that of *to be* (or *to be in a direct way*), that of *to be not* (or *to be in a indirect way*) and that of *to exist but not to be.*



The universe (white region) is the domain of being. The elements outside of it (grey region) exist ("stay there") but they not are, since they have not been considered and no definition (selection criteria) has been applied to them. That is, they stand in the whole, but have no name, they stay undefined. Note that in this diagram: the whole has no delimiting line because its scope cannot be determined, it is not a set; and, of course, that which does not exist cannot be represented.

Essence and existence: From what was said in the two previous paragraphs it can be deduced that all entities *are* (in the sense **1b**, that is, *they exist*), but not all of them *are something* (in the sense **1a**, that is, *they belong*). To be (in the sense **1a**) is more than to exist, because to be, something must exist and stay in a universe where a definition has been made. *Existence* is what all entities have in common, because they are; *essence* is what all entities that are something have. Essence is more than mere existence.

Chaos, demiurge and cosmos: In the preceding paragraphs, particularly the last one, the importance of applying a criterion (definition) is shown, since that is the origin of the essence of entities (those that are something). Whoever defines a set puts order (casts light) into a part of the whole (grey), *chaos,* and creates an ordered universe (white), the *cosmos.* The organizer of entities, who raises them from the state of being into the state of being something, is called *the demiurge.*

Ontology and semiology: Ontology is that part of philosophy which deals with the relationship between entities (in the sense **2a**) and their definitions.

(continued on page 2)

MAIN ARTICLE

To be and to belong

Defintions are the undertaking of ontology, where they are studied one by one. Confronting definitions engages the field of dialectics, where the relative position of sets is determined. Logic completes the circle, acting upon the sets to obtain new (compounded) definitions, its purpose is to decide whether an element does or does not belong to the resulting set, that is, whether it is or it is not.

(page 2)

DIDACTIC NOTE

The three forks
on the road of being

The translation of two of the strophes in Parmenides' poem has forced us to dedicate two issues to the subject of being. Here, the meaning of the words "whole," "homogenous" and "true" are clarified. In the first strophe, the author speaks of that which exists, in the second, of that which has a name and that which is hidden. Both strophes correspond to different forks on the road of being.

(página 3)

BACK PAGE

INTERVIEW WITH JOTAJOTA

Parmenides' Legacy

At the edge of the lake in Independence Park, in the city of Rosario—an appropriate setting for the treatment of classical subjects—Juan José Luetich speaks to us about the oldest work in Western philosophy.

BIOGRAPHICAL NOTE

Juan José Luetich

Our organization's Editor of Serial Publications, he is the creator of a complete system of ideas which spans philosophy, humanities, mathematics, science, art and religion.

PRINTING NOTES

About this publication

Transactions is a serial publication by the Luventicus Academy, an NGO created to promote information, education, science and culture. This supplement is dedicated to the dissemination of the works Juan José Luetich.

9 771666 757003 01

To be and to belong

The definition of a set is always arbitrary. That fact gives them the double character of *unjustifiable* and *unquestionable*. If a definition does not give rise to more than one interpretation, it cannot be objected. That would require the fulfillment of two conditions: (1) that each element in the universe is clearly within or without the set; and (2) that the name of the set has not been used for another one with a non-equivalent definition.

Arbitrariness is a characteristic of the definitions for entities of every kind, including mathematical ones. Let us consider the aforementioned case of the natural divisors of 12. If the meaning for "natural divisor" were not clear, two interpretations would be possible.

$$A_1 = \{1, 2, 3, 4, 6, 12\}$$

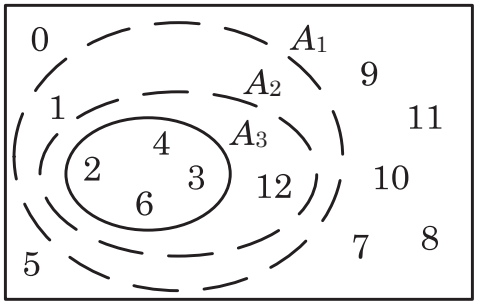
$$A_2 = \{2, 3, 4, 6, 12\}$$

Each enumeration correspond respectively to the following definitions: (A1) *Natural numbers that divide 12 and leave no remainder;* (A2) *Natural numbers that reduce 12.* The second definition may seem whimsical, but not if you look at the etymology of the word "divide," because the act of dividing should always arrive at a quotient that is smaller than the dividend. Dividing by 1 is like adding 0: strictly speaking, neither is either dividing or adding. On the other hand, using the same name for either set would invalidate both definitions; therefore different symbols are used, A_1 and A_2. Giving an unequivocal definition to the divisors of 12; one that meets both of the mentioned conditions, is an ontological task. Both definitions are valid. Arguments could be given in favor of one or the other, but that is not the purpose of ontology.

When comparing the two definitions in the previous paragraph, yet another definition for "divisor of 12" becomes apparent. In fact, in definition A_1, the numbers that result from dividing 12 by each element of the set also belong to the set: 12/1 = 12, 12/2 = 6, 12/3 = 4, 12/4 = 3, 12/6 = 2, and 12/12 =1. In definition A_2 this is no longer true since the element 1 has been eliminated, which makes the definition less symmetric. The solution would then be to eliminate the element 12 too.

$$A_3 = \{2, 3, 4, 6\}$$

Thus arriving at the following definition: (A_3) *Natural numbers that reduce 12 such that the results also belong to the set.* The following diagram illustrates the definition variants for "the natural divisors of 12."



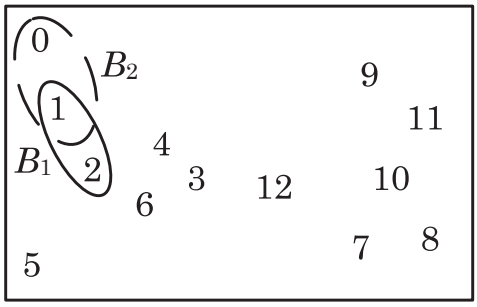
ontology

Now consider the following definition: The first two natural numbers. This definition does not answer whether or not zero should be considered a "natural number."

$$B_1 = \{1, 2\}$$

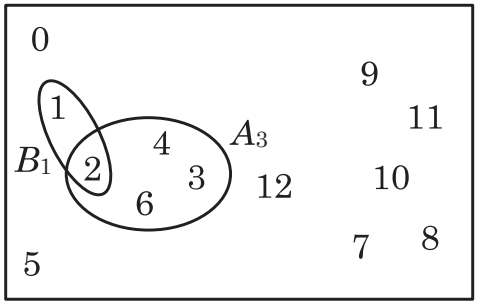
$$B_2 = \{0, 1\}$$

The following diagram illustrates the definition variants for "the first two natural numbers."



ontology

Once the definitions have been made—the field of ontology—the relative position of the sets—the field of dialectics—can be studied.



dialectics

The dialectic game begins when a universe contains more than one definition. Ontology makes many definitions, but does so one by one, without differentiating them from one another and therefore not justifying them.

Once the definitions are chosen (those with unbroken lines) and brought together in the same universe, the sets can be used in operations. And thus we enter into the field of logic, the *third philosophy*. For example, we could ask what elements of set A_3 do not belong to B_1. To answer this question, the elements that are common to A_3 and $\sim B_1$ must be found, that is, the elements resulting from

(continued on page 3)

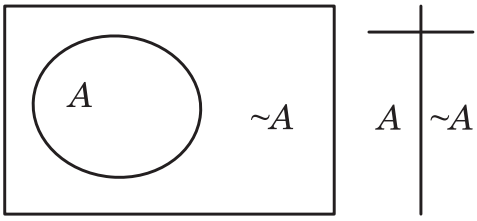
FRONT PAGE

Glossary of Ontology

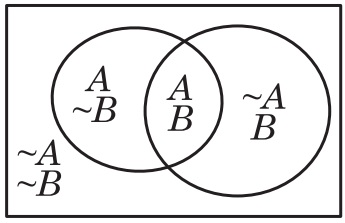
(continued from page 1)

Ontology is closely related to semiology, which studies the relationship between signs and their meanings. The latter goes as far as not distinguishing between concrete and abstract entities. They all show signals that we can perceive with our senses. A set could contain a brick and a number, provided that a definition has placed them there. With ontology, the following question could be raised: What comes first, the being or the definition? However, this question is pointless because: an entity, in the sense **2b** does not become an entity in the sense **2a** until a definition is applied; and a definition is not possible without a universe and elements with shared characteristics.

Ontological tables: Are tables that can serve the function of Venn diagrams. In these tables, the elements of a set are on the same column or row while on the diagrams they are within an enclosing line. In both cases, no elements can be placed over the lines and the names of the sets are used as labels. The following are the diagram and table representations used in the case of a universe with only one definition, *A*.



In a universe with two definitions, A and *B*, the following representations are used.



	A B	~A B
	A ~B	~A ~B

Tables with more than one definition are known as *Carroll diagrams,* named after the English writer, mathematician and logician Lewis Carroll (1832-1898).

The three forks
on the road of being

The verb "to be" has two senses. Consequently raising two issues (that of existing and that of being), to which a dilemma is added (that of belonging), that comes out from the limits of the universe.

The *dilemma of belonging* arises when a definition is made within a universe and it can be summarized with the following statement: *An element in the universe either belongs to a set or to its complement.* This dilemma appears when the elements can be named. All of the elements in the universe are something, that is, they are in the sense **1a** (see the front page article). This situation is summarized in the following table.

dilemma of belonging (Carroll)	
A	$\sim A = \mathcal{U} - A$
to be-something in a direct way	to be-something in an indirect way
to belong to the set	to belong to its complement

The universe is the part of the whole that is being considered.

$\mathcal{U}$	*The Whole*
to be-something	to be
to be in a real sense	to be in an abstract sense
to belong	to exist

The elements of the universe appear, while elements outside of the universe hide. Some of them can quickly be brought into the universe, others take more effort and yet others—it might be thought—shall never enter. But all of these elements have something in common: they simply exist, they have no name. The situation is presented in the following table.

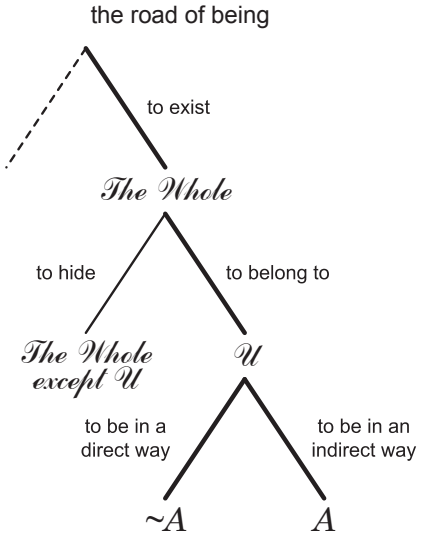
the issue of being (Parmenides)	
$\mathcal{U}$	*The Whole except* $\mathcal{U}$
to be-something	to be but not to be-something
to be in real sense	to be in abstract sense but not to be in real sense
to belong	to exist but not to belong
to have name	to exist but not to have name
to appear	to hide
not to hide	not to appear
ἔστιν	οὐκ ἔστιν

The issue of being, which can be stated like this: *An element of the whole is contained in the universe and is something* (in the sense **1a**) *or it is outside of it and simply is* (in the sense **1b**), lies between these two worlds.

Finally, all elements exist: *"The entity is."* If they ceased to exist, they would cease being elements. They would be non-existent, in the sense that there is no way to name that which does not exist, other than the roundabout method of saying "that which does not exist." Nonexistence is not an option for an entity; it would mean its death. There is no conservation law for entities. The *issue of existing* is shown in the following table.

issue of existing (Xenophanes, Hamlet)	
The Whole	
that which exists	that which not exists
that which is in abstract sense	that which is not in abstract sense
ὡς ἔστιν	

In summary, there are three forks on *the road of being.* The first one is the existential issue, of interest to literature and religion; the second is the essential issue, of interest to philosophy; the last one, the dilemma of belonging, is of interest to mathematics and science.



This image of the road of being solves one of the enigmas in Parmenides' poem. The first paragraph, which was printed in the same space of the previous issue, Parmenides refers to the *first fork.* There he speaks of *being* in an abstract sense (**2b**), ὡς ἔστιν = *that which is,* and calls it "whole" and "homogenous," because it is the only one, another road does not exist. In the second paragraph, he refers to the issue of being, that is, to the *second fork.* There he speaks of *hiding,* οὐκ ἔστιν, i.e. what is done by something that cannot be named, as opposed to *appear,* ἔστιν, i.e. what is done by something that can be called "true" (being, in the sense **2a**).

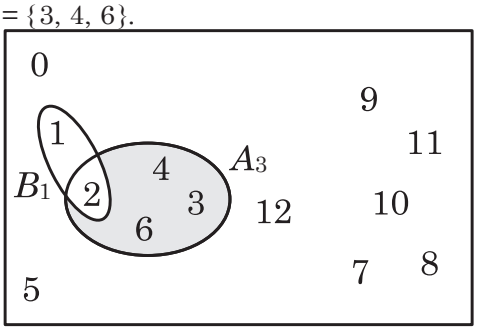
Translating a work like Parmenides', of which we only have fragments, far removed in time, involving concepts that are specific to a language and acquired while learning to speak, and written in Homeric Greek, is a hard task. The three forks mentioned here are related to three great questions, but that shall be the subject of a future article.

MAIN ARTICLE

To be and to belong

(continued from page 2)

the operation $A_3 \cap \sim B_1$. Each term in this expression corresponds to an affirmation: first, the affirmation "the element belongs to A_3;" second, the affirmation "the element belongs to $\sim B_1$." The result is the region where both affirmations are valid: $A_3 \cap \sim B_1 = \{3, 4, 6\}$.



logic

Logic is that part of philosophy which links affirmations to reach new affirmations. The conclusion drawn from the previous example is: *To simultaneously be two things something must be each one of them separately.* In set theory terms: *to belong to two sets is to belong to each one of them.*

Ask Jotajota

Send your question to: jjluetich@luventicus.org

Francisco from Monterrey (MX) asks:

—¿What is the difference between criterion and definition?

—To define a set is to group together the elements of a universe. This grouping may be achieved without applying any criterion (for example, choosing elements at random), applying a criterion that cannot be formalized (for example, of an aesthetic kind), or applying a criterion that can be formalized (for example, of a mathematical kind). In the first case, the definition can only be made by enumerating the elements; in the second case, the subject that applies that criterion must be consulted to decide whether or not an element belongs to the set; in the last case any selector would reach the same result. This is the most interesting one, not only because the definition is independent of the subject (or common to many subjects) but because concepts are derived from that sort of definition. The concept of sports, for example, arises from a definition made with a formally expressed criterion, which in turn is the result of analyzing a series of specific cases (elements). Confronting definitions of this kind is the subject of dialectics.

José Antonio from Guayana City (VE) asks:

—¿Why isn't three the same as 3?

—The first sign, according to the context, may correspond to an indeterminate number, as when you say "some three persons." The second is the formal (mathematical) expression for an amount. A set must not have identical elements, or different names for the same element.

INTERVIEW WITH JOTAJOTA

Parmenides' Legacy

Germán Schultze (gschultze@luventicus.org)

We are at the corner of Oroño Boulevard and Intendente Morcillo Avenue, at the Independence Park, in Rosario. Juan José Luetich arrives to talk about philosophy in the time he has available between classes. We sit on a bench at the edge of the lake, behind the Corinthian columns.

—Are you surprised by the impact that the first issue had?

—Yes, especially over the great many questions received.

—I know you already answered many, but I also want to ask you some.

—Go ahead! It will be a pleasure to answer them, if they are not too hard… [smiles]

—How important are the classics to you when you write about a subject?

—I use things that I take from the classics to build my own arguments, but if for the sake of clarity I must distance myself from them, I do so. However, I think about it many times over before setting off on a new path, to be certain that I have no other choice.

—¿Can you give me an example of this, in relation to the subjects of the first issue?

—Yes, of course. In the first issue I use the expression "second philosophy" to refer to the instance of philosophical thinking that follows the ontological definition. I know that in this sense I am moving away from the meaning that Aristotle gave to it, but I don't want it to be interpreted as "second rate philosophy."

—Aristotle moved away from Plato when he felt it was necessary, by using a well known argument.

—Something similar happens to me. I respect the classics, but I am inclined towards clarity. [smiles]

—Also you can't bring together every classical philosophical system to build a single, coherent system.

—And the worst thing you could do is to force reasoning in order to accomplish that goal. Many times teachers and historians of philosophy succumb to that temptation. As for me, I don't syncretize, my purpose is not to harmonize nor reconciling doctrines.

—How do you differentiate between harmonize and reconciling?

—For me, "harmonize" means "to make things that are different look good together." While "reconciling" means "to bring different positions closer to each other so as to reach an agreement." I think that neither the intention to harmonize nor the intention to reconcile are good starting points in philosophy. But I don't rule out that harmony or reconciliation may be achieved as the result of reworking.

—Did you encounter that situation while working on the subject of being?

—I encountered it many years ago, while studying Parmenides and Democritus. I will be talking about that in a future article.

—What do you think was Parmenides greatest contribution?

—Without doubt, raising the issue of "hide or appear." That idea was understood by the ancient Greeks, but it got blurred afterwards, due to the translations. That is why, in this supplement, we dedicated two issues to clarifying its meaning.

—The way in which Parmenides chose to present the problem did not seem to have helped much.

—Parmenides lived and participated in the birth of an era. His poem has all of the characteristics of a work developed during a transition period. Notice that the author writes in prose but uses the forms of poetry, he gives a goddess the role he should have given a male god, and he uses the word "being" in its most abstract sense, hoping to encompass all cases…

—And thus he commits contradictions.

—I would not say "commits." Those are essential contradictions that enrich his work. He was breaking away from tradition. For example, by using in his poem a language of little poetic value, he invented the genre called "philosophical poem," a self-contradictory name.

—That makes the work a hybrid.

—That's true, but that doesn't mean that Plutarch was right in treating it as a work of poetry. Plutarch criticizes the versification of *"The Way of Truth"* by comparing it to the works of Pindar, but Parmenides was not a poet. You cannot be a philosopher and a poet. Philosophy sprouts as a reaction against the abuses of poetic language.

—Maybe that is why Borges didn't like to be called a philosopher.

—Of course, he had chosen to use poetic language, admired Robert Graves, and knew that no man could serve two masters.

—In your file we found a reconstruction of the Greek text of "The Way of Truth…"

—Yes, but I never managed to round it off, there are a couple of things that I am still not satisfied with. I am letting time do its work. As a tribute to Parmenides, maybe I will find something better than reconstructing the poem.

—Is it likely that the missing fragments contained something important?

—If my intuition is correct, there are two important things missing from the classic quotations.

—I get the feeling that if you were given the chance to use a time machine, you would visit Parmenides.

—If I was only given the chance to use it once, I don't know; but if I was given the chance to use it twice, I would undoubtedly choose to use one of them to listen to Parmenides reciting *"The Way of Truth."*

Juan José Luetich says goodbye in order to be on time for his next class. The last warm rays of mid-June sunlight are barely enough for me to finish giving form to these brief notes.

Juan José Luetich was born in Rosario on January 24, 1964. He is the Editor of Serial Publications at the Luventicus Academy of Sciences and he teaches in mid and high level institutions. He is also the author of a volume of work spanning several areas: philosophy, critique, semiology, linguistics, anthropology, didactics, music, mathematics, chemistry, physics, engineering and computing. The works were almost lost at the end of 2010, when the author was very near death due to a cardiovascular event. This supplement is dedicated to rescuing the notes kept in hard copy including, among other things: articles on the basic principles of chemical thermodynamics, the reinterpretation of some of the basic concepts of statistical physics, notes on the interaction of the subject with the system under study, exegeses on the works of several men of science, articles on the subject of the theory of numbers, a theory for a new musical system, a book of piano études, notes on matters regarding Indo-European linguistics, literary criticism articles, moral and political writings, translations of ancient and medieval texts, notes on the origin of Western institutions, and reconstructions of ancient rites and cults.

About this publication

Transactions is a serial publication about the foundations and philosophy of science of The Luventicus Academy, an NGO promoting information, education, science and culture. This supplement is dedicated to the dissemination of the works of Juan José Luetich. The articles published in this issue are: *"Glossary of Ontology"* (2003), *"To be and to belong"* (2004) and *"The three forks on the road of being"* (2003). Webpage: www.luventicus.org/transactions. E-mail: transactions@luventicus.org.

The Luventicus Academy
Príncipe Pedro Building
Buenos Aires 633, 2nd Floor
S2000CEA Rosario, Argentine Republic
+54 341 4487316
www.luventicus.org
academy@luventicus.org

Printed in the workshops of Tecnigráfica