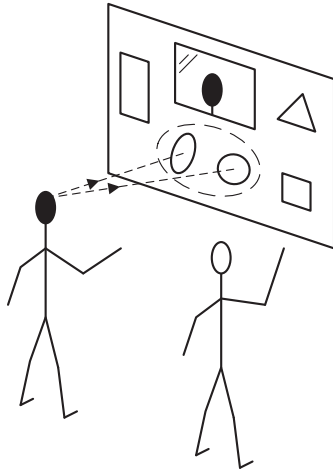## Cogito ergo sisto, pertino ergo sum.
(I think, therefore I exist; I belong, therefore I am.)

IN PREVIOUS ISSUES of this volume, the problem of the human being who places his attention on entities other than himself was proposed.

The solution to that problem identified two actions: *perceiving* and *grouping*, which taken together are the same as *thinking*. In this issue, we deal with the subject of *self-perception* and that of the *perception of others*. These two new proposals shall respectively receive the names of *the mirror problem* and *the peer problem*. Solving each of these problems—as shall be seen—will lead the thinker to a conclusion.

The Mirror Problem Among the entities that are a part of the universe, there are some that have a special characteristic. Those are the *mirrors*, meaning that they have reflective surfaces, such as puddles of water or polished metal knives.
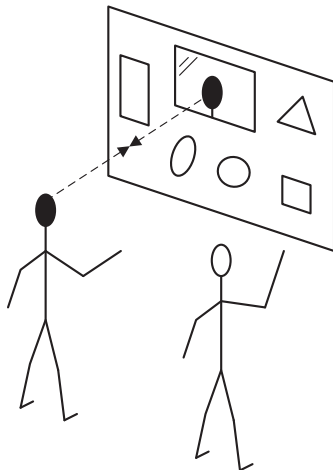

It is because of these entities that the human being is aware of his own existence. It is worth mentioning that, while the existence of other beings is *directly* perceived, the existence of oneself is per-

ceived *indirectly*. And when man recognizes himself as a being that perceives and groups entities together, he says: "I think."

The Peer Problem After recognizing himself as a thinking being, a time will come when the human being finds another who is capable of doing the same, his *peer*.
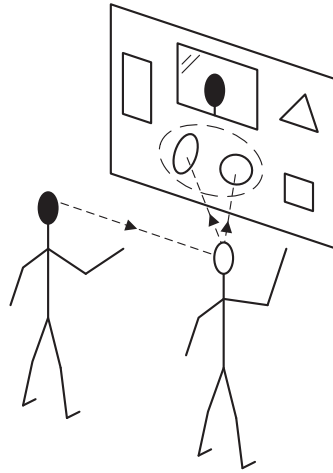
This will cause him to define a new set, *H*, of which he is himself an element. Then he says: "I belong."
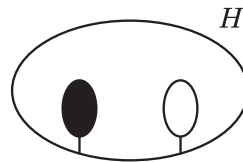
All of Aristotle's senses are involved in perceiving another: the *extended sense* (tact), the *chemical senses* (taste and smell) and the *wave senses* (sight and hearing). Any of these will allow us to detect in another a "slightly different" being, that is, a being "with great similarities." The first three are those used by a newborn to recognize its mother. The higher senses mature later in life. The proposal made here is relevant to that second stage in a person's development.

Of these two titles it so happens that, just as thinking of entities other than oneself must be divided into two actions, so does thinking of oneself also need to be unfolded into: (i) thinking of oneself and of the other, and (ii) forming a set with the other.

Conclusions: **1**. The solution for the Mirror Problem ends by affirming: "I think." However, this is followed by the observation that: "I am also on the board". And, as shown in the previous issue, to be on the board (*tabula*) is to exist. The conclu-

9 771666 757003

01

Gnoseology

IN THIS ARTICLE a theory of knowledge is presented based on the definitions used in the *"Glossary of Ontology"* of the previous issue and on the conclusions of the front page article in this issue.

The Whole is perceived by the human mind as being made up of elements of variable diversity. At first sight, elements are associated by mathematical (*quantity*), physical (*status*) or chemical (*substance*) affinity. This affinity is established by ideas that precede sensory experience and can trace their origins to the very structure of the human brain. In order to simplify the problem, let us consider the case of similarity in form, which is a type of mathematical affinity.
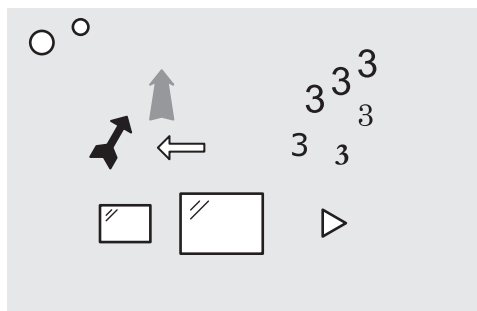
(0) From each group of like elements, the mind takes only one, in a passive attitude at the level of the senses (the outermost organs of consciousness) which entails no definition whatsoever.

What follows are the four actions that make up the process of knowledge (see the series of diagrams in the following column). In them the human being quits the passive attitude to intervene and contribute.

(I) The mind focuses attention on some of the elements that have been identified. In this action (*sentio* = to perceive), the universe is defined.

(II) The mind groups together the elements of the universe by involving mental processes that result in the definition of concepts (*conglobo* = to group).

(III) An element with a reflective surface allows the human being to become aware of his own existence. This action (*speculo* = to look into the mirror, to contemplate) places the thinking being himself upon the board also and the universe is broadened.

(IV) The presence of another being who is capable of perceiving and grouping elements, and who can be seen reflected in the same mirror (second broadening of the universe), will cause the thinking being to define a new set in which he is also included (*congrego* = to gather).
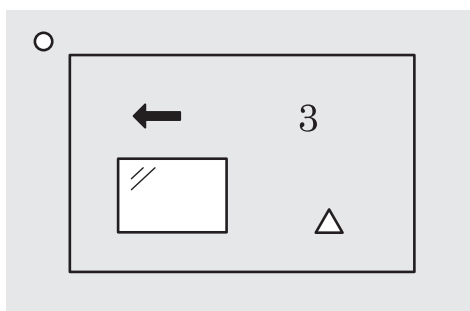
These actions are simple actions that can be associated to produce other, more complex ones and simplify the statements. Thus, for example:
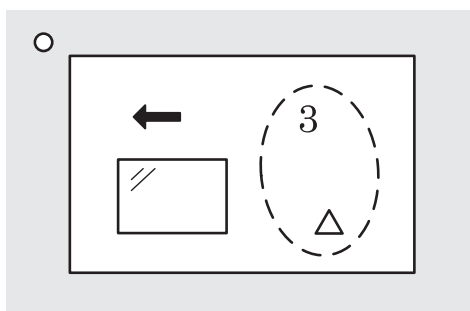
$$sentio + conglobo = cogito.$$

The complex action of thinking (= *cogito*) results from the sum of *perceiving* and *grouping*. On the other hand, belonging (= *pertino*)
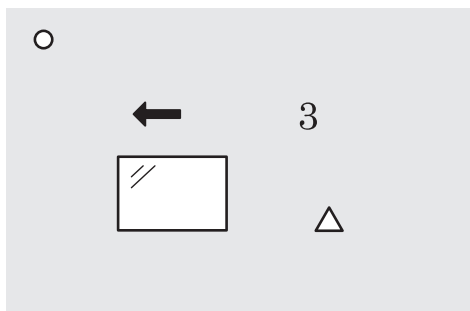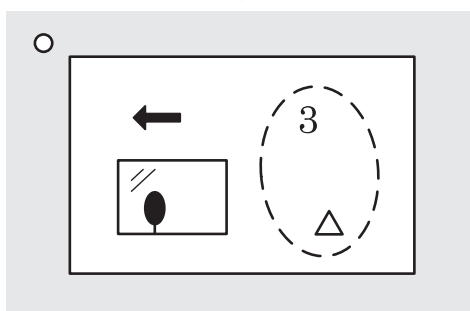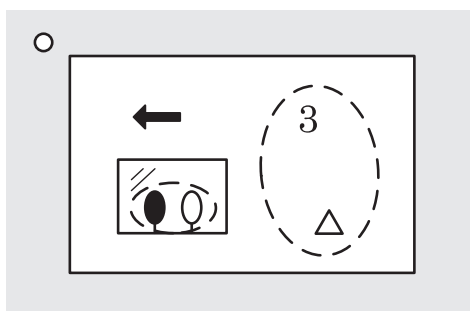

results from the sum of *seeing oneself in the mirror* and *gathering together with the peer*:

$$speculo + congrego = pertino.$$

It is then clear that, in this context, the verb "to belong" identifies an action.

Cogito ergo sisto, pertino ergo sum.
(viene de página 1)

sion then is: "If I think, I exist." **2.** The solution for the Peer Problem ends by affirming: "I belong." Followed by the observation: "I am also within a set." And, as shown in the previous issue, to belong to a set is to be (being something). The conclusion now is: "If I belong, I am."

The two aforementioned conclusions were expressed in the form used by Augustine of Hippo: *"Si fallor, sum,"* that is, *"If I fail, I exist."* While the form used by Rene Descartes is equally valid: *"Cogito ergo sum,"* provided it is interpreted as *"From the fact that I think, I conclude that I am."* Both statements attest to the existence of the self itself and are therefore *unidirectional*, in the sense that they should not be interpreted backwards. That is why the following expressions are false: "I exist if I fail", and, "I exist because I think." The conclusions reached from the problems presented in this article may then be formulated as follows.

The Mirror Problem	
Cogito ergo sisto.	*I think, therefore I exist.*
cogito ⇒ sisto	

The Peer Problem	
Pertino ergo sum.	*I belong, therefore I am.*
pertino ⇒ sum	

Formally, the unidirectional connector uses the implication symbol: "⇒."

Ask Jotajota
Send your question to: jjluetich@luventicus.org

Miguel Ángel from Lima (PE) asks:

—*What is the best definition for "the divisor of a number"?*

—First we should remember that in the article called *"To be and to belong"* we spoke of "the natural divisors of a natural number n". In that case, the definition A_3 ("natural numbers that reduce n such that the results also belong to the set") is the more elaborate one. This definition, for example, makes it simpler to introduce the concept of "prime number." In fact, according to it, a natural number is a prime number when it does not have any divisors. However, the label of "best" should never be applied to a definition: given any two clear definitions, neither can be better than the other. Although it is true that if a definition is established for a specific application—as is the case with A_3 when used to study prime numbers—, it may be more practical for that purpose than others, we should still abstain from using the adjective "best."

The Etymology of Being (I)

THE GREEK VERB εἶναι (εἰμί = *I am*, εἶ = *you/thou are*, ἐστί(ιν) = *he is*, ἐσμέν = *we are*, ἐστέ = *you/ye are*, εἰσί(ιν) = *they are*) had the same two senses in ancient times as the verb "to be" has in English today, that is, those mentioned in the *"Glossary of Ontology"* of the previous issue (**1a** and **1b**). [The from used for the third person singular, could use an *n* (ἐστιν) at the end, as in the stanzas of Parmenides' poem that were included in the first issue.] In Latin this also happened sometimes with the verb *esse* (*sum = I am*, *es < ess = you/thou are*, *est = he is*, *sumus = we are*, *éstis = you/ye are*, *sunt = they are*).

These Latin and Greek verbs are derived from the Indo-European root ***h₁és-**. The forms for this verb, which arise from comparison of several languages, are: ***h₁és-mi** = *I am*, ***h₁és-si** = *you/thou are*, ***h₁és-ti** = *he is*, ***h₁s-mós** = *we are*, ***h₁s-th₁é** = *you/ye are* and ***h₁s-énti** = *they are*. The irregularities for the Latin verb are shown in the following table.

Indo-European	Latin	Greek
*h₁és-mi	*sum*	εἰμί
*h₁és-si	*es*	εἶ
*h₁és-ti	*est*	ἐστί
*h₁s-mós	*sumus*	ἐσμέν
*h₁s-th₁é	*éstis*	ἐστέ
*h₁s-énti	*sunt*	εἰσί

The second and third person singular are regular:

*h₁és-si > ***h₁ési** > *es,*
*h₁és-ti > *est.*

The second and third person plural followed a longer route:

*h₁s-th₁é > ***h₁sté** > ***sté** > ***este** > *estis,*
*h₁s-énti > ***sénti** > ***sonti** > *sunt.*

What happened to the first person plural is harder to reconstruct. According to the suggestion made by Leonard R. Palmer (1906–1984) in his book, *"The Latin Language"*, changes in the third person plural would have had an influence over the evolution of the first person plural:

*h₁s-mós > ***smós** > ***somos** > *sumus,*

and that, in turn, would have dragged the first person singular along with it:

*h₁és-mi > ***ésmi** > *sum.*

Howsoever this history might have been, it is obvious that the plural and singular first persons have interacted. Nonetheless, no irregularities appear in the Greek verb.

Another very important Indo-European root in philosophy is ***steh₂-** < ***stHeh₂-**, from which the latin verb *stāre = to stay*, (*stō = I stay*, *stās = you/thou stay*, *stat = he stays*, *stāmus = we stay*, *stātis = you/ye stay*, *stant = they stay*) derives. No Greek verb is directly derived from this root. But for the form that resulted from the reduplication, ***sisteh₂-** < ***stísteh₂-**, *stay present*, (***sísteh₂-mi** = *I stay present*, ***sísteh₂-si** = *you/thou stay present*, ***sísteh₂-ti** = *he stays present*, ***sísteh₂-mos** = *we stay present*, ***sísteh₂-th₁e** = *you/ye stay present* y ***sísteh₂-enti** = *they stay present*), there is one. It is the verb ἱστάναι (ἵστημι < σίσταμι (Ho-

meric, στη) = *I present myself*, ἵστης = *you/thou present yourself*, ἵστησι(ν) = *he presents himself*, ἵσταμεν = *we present ourselves*, ἵστατε = *you/ye present yourselves*, ἱστᾶσι(ν) = *they present themselves*). The interesting thing is that the same root resulted in the Latin verb *sístere = to appear, to present, to stand* (*sistō = I appear*, *sistis = you/thou appear*, *sistit = he appears*, *sístimus = we appear*, *sístitis = you/ye appear*, *sistunt = they appear*). The root ***steh₂-**, would reference to *stay* in the case of beings that perform the action *speculo* (those which *actively* are). For those beings that not perform the action *speculo* (those which *inactively* are), there was another root, ***bh₂u- < *bh₂uH-**. Both roots were already being confused in the late Indo-European, that is, the difference (which was much more than just a subtlety) between the action of appearing of inanimate entities (those that *inactively* are) and the action of appearing of animate entities (those that *actively* are) was not noted by that time. The greek verb φύειν (φύω, φύεις, φύεις, φύομεν, φύετε, φύουσι(ν)), is derived from the root ***bh₂u-** which had the meaning of *to arise, to emerge*. In Latin, traces of this root are still found in the form *fuí* of the verb *esse*.

Everything that has been said so far is shown in the following diagram, where the
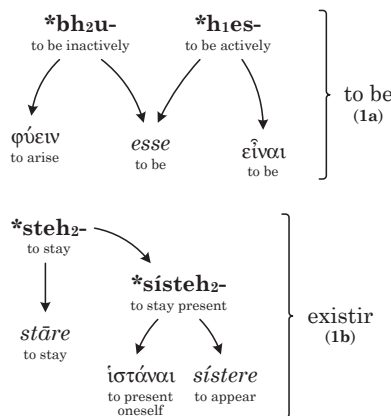
theory of knowledge that was described in the main article can be seen to be entirely consistent with the structure of Indo-European verbs: (1) to be and to stay are independent ideas (roots) [in the *"Glossary"* it said: *"(the elements in the grey region) 'stay there' but they not are"*]; (2) the verb "to exist" arises from the reduplication of the verb "to stay" (differentiation between to be and to be present) and therefore the idea of "to exist" is a subsequent idea to that of "to be", which probably served to distinguish "to stay present" from "to stay" [in the *"Glossary"* it said: *"essence is more than mere existence"*]; (3) in Indo-European there were two verbs for "to be", one for inanimate entities and another for animate entities [in the front page article a different proposal is made for each one of them, *cogito* versus *pertino*, which resolves three, by no means minor, issues: the sense that should be given to the words «inanimate», when associated to «Nature», «soul» and «thinking»].

Gnoseology
(continued from page 2)

Gnoseology is the field that studies the process of knowledge, which consists of two actions: *perception* and *definition*, successively applied to entities different of the thinking being and to the thinking being himself (and his peers). Together with semiology and anthropology, it is part of that body of knowledge called *the humanities*, which is not the nucleous of philosophy (ontology-dialectics-logic) but is linked to it because its subject is directly related—although in a different way—with being. Semiology is mostly concerned with the action *cogito*; anthropology, with the action *pertino*.

Many theories of knowledge have been developed throughout the history of Western thought. Each philosopher has created or adhered to one. The theory showcased in this article owes some of its elements to Plato, to the great French philosopher Rene Descartes—in whose honor the title was chosen—, to the English thinker John Locke (1632–1704), and to the Prussian philosopher Immanuel Kant. The contents of
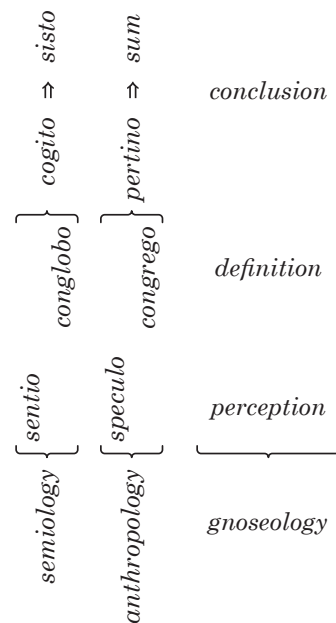
the article was summarized in the diagram.

Ask Jotajota (cont.)

Alexander from Medellín (CO) asks:
—*What is the difference between semantics and semiology?*
—Semantics is the study of the relationship between words and their meaning. Therefore, since words are a kind of sign and their sense is a kind of meaning, semiology enclose semantics. Taking into account what was said in the *"Glossary of Ontology"* of the previous issue, semantics is also closely related to ontology. For example, when we ask: "What is a sport?" both, semantics and ontology will provide answers. The first tends to be a dictionary-like definition while the second is more rigorous, encompassing and clarifying.

INTERVIEW WITH JOTAJOTA
Myth and Opinion

Germán Schultze
(gschultze@luventicus.org)

During a beautiful early spring afternoon at the beginning of September, we find ourselves in the French Garden of Independence Park, in Rosario. We are here to speak with Juan Jose Luetich about philosophy, sitting on a park bench, surrounded by meticulously trimmed bushes, close to the fountain head.

—*We have received many new comments and questions regarding the subjects covered in the first two issues. It is encouraging to see that so many people are interested in philosophy. I am one of those who believes that a system of ideas that overcomes the current ways of thinking can improve the world.*

—I share in that hope, and I am going to invest all of my strength into making this project a reality.

—*What is the origin of myths?*

—Myths are the products of a time in which accounts were not recorded in writing. The problem then was how to preserve them. And tradition had shown us that writing songs was a good solution for that, since musical rhythm and rimes—both of them, repetitious in nature—, would cause you to remember the words (the lyrics). On the other hand, the subject of a song is better remembered when it is presented in the form of simple ideas joined together in unusual ways. The art of ingeniously stating complex ideas in simple terms is that of the poets. That is why rhythm (and/or rhyme) and poetic language have been joined since then. The problem with poems is not in the rhythm/rhyme—in spite of the artificiality of that recourse—but in the poetic language itself. Because if whoever receives the message that was coded by the poet has no knowledge of the code technique used, he may decode it in his own way and interpret almost anything from it. A good poet tries to avoid this by allowing only the interpretations he wants, but it is clear that this is not always accomplished.

—*What do myths and opinions have in common?*

—Their multiplicity. Myths have multiple interpretations, those that are wanted and those that are unwanted by the poets. While opinions are, by definition, numerous. And multiplicity—which may come from reproduction, in the case of something that can be reproduced (for example, an article that is mass produced), or by counterfeiting, in the case of something that is irreplaceable (for example, a work of art)—entails devaluation. Observe that diversity (the existence of many different things) is wealth; however, multiplicity (the repetition of the same) is abundance, not wealth. The concept of abundance is more encompassing. Let us consider two real-life examples: currency, compared to the goods and services for which it can be exchanged, will lose value during an inflationary process; a counterfeit statue, while its falseness remains unknown, will have a certain value, but that value will be lost as soon as it becomes apparent that it is counterfeit, because there could be thousands of counterfeit statues, while the original one is unique.

—*Is it then simply a matter of quantity?*

—Yes, in principle. But then there is a matter of names. We can give a name to the original sculpture: for example "the largest of Gerbino's Venuses." [I say this because I am looking at one of the sculptures in the fountain from here.] But if we were to replicate that sculpture, what name would we give each replica? If I raise a rabbit, I can give it a name. If the rabbit reproduces and I find a thousand, almost identical rabbits in my yard someday, I may be able to recognize him, but I would not be able to name the others. They would be hidden in the crowd. That is why the ancients speak of "what is hidden" in the sense of "that which is unnamable."

—*I have always admired the acuteness of the ancients. The image of something hidden is a good one. I cannot think of one better for the numerous.*

—I like to think of that which is hidden as "that which is forgotten", that is, "that which cannot be kept." If something is hidden, it cannot be named, therefore, it cannot be kept and is forgotten. This is what happens with false structures. You quickly forget they exist. They return to the chaos of the unnamable things.

—*I liked that image very much. Thank you for sharing it.*

We walked several meters, to the corner of Balcarce and Pellegrini avenue. We said goodbye and I returned to my studio to make a clean draft of my notes. Juan Jose Luetich, once again, left me in thought. I think the subject of this dialog deserves a space in the next one.

About this publication

Juan José Luetich, teacher by vocation, by choice, by training, by certification and by exercising the trade, began his career when, while still very young, he received the title of Music Professor (specialty: The Piano), recognized by the Superior Government of the Province of Santa Fe. While taking his specialization courses he taught Music Theory at the "Josefina Prelli" Conservatory. During his time as a university student, he served as a teacher in the "Rosario Study Center and worked as a private tutor. The subject matters he covered were: Language and Mathematics for introductory high school courses; Mathematics, Physics, Cosmography, Chemistry, Merceology, Biology, Language and Literature, for high school and precollege level; Algebra, Analytical Geometry, Calculus, Differential Equations, Numeric Methods, Discrete Mathematics, FORTRAN Programming, Statistics, Probabilities, Mechanics, Calorimetry, Acoustics, Optics, Electricity, Magnetism, Quantum Physics, Astronomy, Electrical Engineering, Digital Circuits, Biological Physics, Statistics, Materials Science, Civil Structures, Industrial Installations, General Chemistry, Inorganic Chemistry, Organic Chemistry, Biological Chemistry, Analytical Chemistry, Thermodynamics, Physical Chemistry, Chemical Kinetics, Transport Phenomena, Reactor Design and Control Theory, for students in various faculties and for university students seeking careers in engineering, systems, architecture, agricultural sciences, veterinarian sciences, medicine, dentistry, pharmacy and biochemistry. During his postgraduate studies he also gave private classes in Partial Derivative Equations, Callculus of Variations, Finite Elements, Fluid Mechanics, Continuum Mechanics, Statistical Physics, Thermal Machines, Quantum Chemistry and Organic Synthesis. After founding the Luventicus Academy, he gave various online courses: Numbers Theory, Geometric Inequalities, Finite Differential Equations, Differential Geometry, Topology, Atomic Models, Solid State Theory, Computational Chemistry, Non-Lineal Systems and LISP Programming. In other institutions he currently teach or has taught the following subjects: Physics, Chemistry and Information Technology, in a mid level school (for Administration and Humanities); Research Paper and Presentation Techniques, at a Philosophy school (pre-tertiary level); Algebra and Geometry, Professional Techniquesl and Chemical Technologies for a higher technical degree in Electronics; Quantitative Techniques (Operational Investigation) and Research Methodology, at a Business Sciences faculty (university level); Unitary Processes (Reactor Analysis), at a Chemistry and Engineering faculty (university level); Air Transport of Contaminants, for a Master in Chemistry (postgraduate level). Juan Jose Luetich also became interested in didactic matters and wrote countless articles that encompass his observations and proposals, among them one regarding the teaching of chemistry to blind students. He has given classes in English for scientific and technical subjects. He is the author of various textbooks and has directed a great many graduate and postgraduate theses. He has also worked in creating and modifying study plans. In that respect, he has been consulted by institutions within the country and abroad.