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ACHILLES. THE ELEATIC PARADOXES IN THE PHENOMENOLOGY OF SPIRIT

ATTEMPTS TO AVOID THE PARADOX

*To the one who crosses the river, tell, oh Theaitetos,
that the waters will show him their depths.*

PLATO, *Theaitetos*, 200 E.

THE FABLE – Achilles runs after the Turtle¹ but he cannot catch up with it because at the beginning of the race he gave it a start. (*The moral*: the strong should not be generous with the weak).

Old Brehm's portable zoo ranks the Turtle among the slowest reptiles. Literature, however, bears witness that Achilles was the swiftest runner in Troy.² As for the start given by Achilles to his opponent, the length of this finite segment is up to him and can be arbitrarily small, even at the very moment of the beginning of the race. Under these circumstances the defeat suffered in the ignoble war with the turtles seems unbelievable, even upsetting. ("Sing, goddess, the wrath of Achilles Peleus' son...")

But what does the paradox precisely consist of and how does it appear?

It usually appears the moment when eye witnesses from outside the Fable and having no connection whatsoever with it claim having seen with their own eyes how Achilles not only caught up with the Turtle but overtook it too!

According to this meta-fable, the paradox would arise from the clash between *reason* and *empirical experience*.

In what follows we set out to demonstrate the groundlessness of this opinion. For this, we need to review the initial conditions of the race.

THE CONDITIONS OF THE RACE

The explicit conditions of the race are the following:

1. At the beginning of the race, the two competitors (let us name them A and B) are separated by a finite distance, $\Delta(0)$; it can be arbitrarily small

but bigger than zero, and once established it is to remain the same. The first condition of the race can be rendered in short through the following symbolic expression:

$$\Delta(0) > 0;$$

We shall consider this initial distance equal to the unity $\Delta(0)=1$.

2. Within the same (finite) interval of time $\Delta t(n)$, A covers a segment $\Delta(n)$ longer than the segment $\Delta(n+1)$ covered concomitantly by B (it can also be accepted that, *every now and then*, the segment covered by A should be even equal to the segment covered by B):

$$\Delta(n) > \Delta(n+1).$$

3. The third most important and cunning condition, explicitly included among the initial conventions, prescribes expressly that at each stage A should pass by exactly the same point where B had been during the previous stage.

The race unfolds in discreet stages; each stage has a current number n ; the stage $n=0$ is the *starting* moment. We shall use $A(n)$ and $B(n)$ to denominate the two competitors at the n^{th} stage. The starting point will be marked 0; the point on the abscissa in which A is at the n^{th} stage will be marked $X(n)$. Obviously, the point on the abscissa where B will be will have to be marked $X(n+1)$. So we have: $A(n)=B(n-1)=X(n)$; $B(n)=A(n+1)=X(n+1)$.

Further on, we shall use $a(n)$ and $b(n)$ for the speed of A, and B respectively, along the segment $\Delta(n)$.

4. Finally, the fourth and apparently the most important condition requires that the distances successively covered by the Turtle should not only decrease constantly but, more than that, should decrease (not necessarily strictly) in such a way that it becomes *smaller than any arbitrarily short segment ε previously given*. Thus, if we are given an arbitrarily short, but larger than zero, segment ε , $\varepsilon > 0$, then we have to find a natural number n in such a way that after n steps the distance $\Delta(n)$ between the two competitors should be smaller than the length of the segment ε , but still different from zero:

$$\varepsilon > \Delta(n) > 0$$

(for an n large enough if ε is given). Thus expressed, this condition forbids B, on the one hand, *to stop* (according to $\Delta(n) > 0$) and wait for Achilles. On the other hand, it forces Achilles to stop indefinitely at a definite distance, $\Delta(n)$, smaller than ε , from his opponent. We shall say in brief that $\Delta(n)$ tends towards zero: $\Delta(n) > 0$.

So the paradox appears only when we ask B to never stop and to advance alongside A, in such a way that the segment $\Delta(n)$ between them stays larger than zero and that the sequence of segments successively covered by it necessarily tends towards zero. We ask A too to come indefinitely close to B.

AN APORIA IS NOT A PARALOGISM

The memory of these lived events clashes in our intellect with the conclusion of the Fable. We get the impression that the Fable denies the very *obvious*. We get the impression that the demonstration goes against the data of *experience*. We get the impression of a *contradiction* between *empiricism* and *reason*. Since nobody doubts what they have so often seen with their own eyes, there is a tendency to account for this discrepancy by calling the Fable a *paralogism*, a reasoning vitiated by some hidden fallacy. But the Fable is perfectly consistent and does not contain any inconsistency with the accepted hypotheses, therefore no formal error of reasoning: A and B are always at the opposite ends of the same segment Δ . Since the conditions of the competition explicitly forbid that these segments decrease to one single point, the point A will never come to coincide with the point B.

We would indeed commit a formal error of reasoning if we accepted that after a finite number of steps, A will, however, catch up with B, thus entering a manifest conflict with the initial hypothesis. Only now would appear an internal contradiction within the carefully delimited world of our Fable, reducing it to the absurd and thus destroying it. "*The so-called Achilles*", our Fable remains coherent from a logical point of view if and only if we accept, at least in the story, the fact that he who runs faster does not catch up with, however close he may get to, the one who advances more slowly.

But, and this is what we shall try to prove in what follows, in the *Achilles* Fable we do not have any clash between *reason* and *empiricism*, of which *one* of the two should come out a winner.

The paradoxical fable has nothing to do with *the real mechanical movement of objects* in time and space. Such a real physical movement cannot, under any circumstances, be compared with the movement of the competitors in the Fable: the conditions imposed on the simultaneous movement of A and B *cannot be met by any movement of any concrete object*. Irrespective of the original language in which it is expressed and independent of any subjective intentions that its creator might have had, our Fable does not refer to this physical phenomenon. The paradox arisen belongs entirely to the universe of thinking and is caused by the profound *clash between the intellect and itself*: the spirit achieves something and, once aware of its achievement, rejects it and repents of it.

THE CONCORDANCE BETWEEN THINKING AND REALITY

However, the testimony of the senses does not necessarily and generally contradict the final conclusion of the Fable. There are cases – an infinity

actually – when *the eye witnesses* cannot contradict the conclusion of the Fable, and Achilles' story will look not only *realist* in an aesthetic sense, but also *real* in the common sense of the word.

Giving the following example should satisfy us in this respect. Let us consider $\Delta(0)=1$ the initial distance equal to the unity separating the competitors at the starting point. While A covers this whole segment, B covers half the unit, $\Delta(1)=1/2$. While A covers the segment $\Delta(1)$, his opponent covers a third of the unitary segment, i.e. $\Delta(2)=1/3$. And, in general, at the n th step of the race B should cover the $(n+1)^{\text{th}}$ part of the unity, while A will cover the previous fragment, equal in length to the n th part of the unity. Thus, at the end of the n^{th} step, A will have covered the segment $\Delta(n-1)=1/n$, and B the segment $\Delta(n)=1/(n+1)$. Thus, Achilles will successively cover the segments: $1, 1/2, 1/3, 1/4, \dots, 1/n, \dots$, and B will concomitantly cover the succession of segments: $1/2, 1/3, 1/4, \dots, 1/(n+1)$.

As the two contenders advance, n increases, while the segment $\Delta(n)=1/(n+1)$ decreases beyond any limit, tending towards zero. Yet, however long n may be, and however great the number of stages covered, this segment will always be longer than zero, it will never be annihilated, and it will never be contracted to one point only, which means that A will never coincide with B: it has thus been *demonstrated* that *there is no point of incidence*.

DIFFICULTIES OF DIRECT OBSERVATION

Let us suppose now that a superhuman referee is watching the competition: incorruptible, impartial, and geometrically ideal. Which means that he is capable of distinguishing as such two distinct points, no matter how close, of seeing at distances however great, and of watching the competitors for however long it may take. He will see that the competitors get farther and farther away from the starting point O, and that even when they have covered *hundreds*, and *thousands*, and *millions* ...of units, A is still behind B; however far the competitors may get, the referee cannot but invariably note at any given point $X(n)$: *the incidence has not occurred*.

And what will the referee's hourglass show?

2 If A's speed is constant, then each stage will take $\Delta t(n)=1/(n+1)$ secs., and the sum of these time intervals will be bigger than any arbitrary value. This competition needs not only immortal competitors³, but a referee with infinite patience and infinite life too.

However far away from their initial positions the competitors may have got, however close A may have drawn to B, and however much time may have passed since the starting moment, our immortal and divine referee will not be able, by merely describing what he can see, to phrase a sentence that would assert the incidence of the two competitors. Under these circumstances he *will not be able to insert into his discourse the sentence* "A can-

not catch up with B", which formally contradicts the conclusion of the Fable, nor will the paradox appear.

We have tried to faithfully render the race through the referee's eyes, and thus may have expressed ourselves in his name in a manner that might seem pedantic rather than cautious. For indeed, no matter how great n 's value may be, the only statement the referee can make is: "*so far* the incidence has not occurred, *I cannot assert* the occurrence of the incidence". Could we not ask him then to renounce this uncertain and indirect way of speaking and to state clearly: 'the incidence will never take place'? Could we not ask him to utter a short and categorical "no" instead of "I cannot say yes". Unfortunately, he cannot utter this "no" without running the risk of *incomplete induction*. Or, his task is to referee, i.e. to *ascertain* facts that have *actually* taken place, and not to put forward haphazard hypotheses.

In order to be able to utter the categorical negative judgement: "A cannot catch up with B" he would have to watch the runners *beyond* any finite and accessible point of the axis. In order to have the right to ascertain actual non-incidence, he would have to watch them to "the end of the never-ending", which is in principle impossible: there is no such thing as an *end to the never-ending*, beyond all the points $X(n)$ actually accessible and placed at growingly big distances. Once any previously given, arbitrary distance has been overcome, there can be no point anymore.

Under these circumstances we cannot but admit that direct observation and an actual confirmation of the non-incidence become *in principle* impossible, even for an ideal and immortal referee.

But in our case we can easily and, as always when this is possible, happily decline the services of the divine referee, because the actual non-incidence can be rigorously *demonstrated*, without any need to refer to empirical data that observation cannot provide anyway. From the very conditions of this specific race it necessarily follows that Achilles can never catch up with the Turtle: the sum $n^2(1/k)$ diverges, outgrowing any margin, and any finite and arbitrarily great value previously given.

The conclusion is distressing. We have set the initial conventions of the race in such a way that they correspond entirely to the requirements of the Fable. We have then stated that in the present, very concrete case, the conclusion "has nothing paradoxical about it", interpreting the phrase in the sense that this conclusion is now in *full concordance with direct observation*. So we assume that there is a perfect agreement between the dianoetic conclusion and the testimony of the senses. Unfortunately, the existence of such an agreement cannot be definitely stated. There is only one, lesser thing that can be asserted: the conclusion reached dianoetically *is not inconsistent with*, does not clash with the testimony of the senses. The definite non-incidence which we might have expected to ascertain through direct observation can only be established through logical demonstration. Thus, the conclusion of the Fable *does not necessarily engender* a paradox.

But the conclusion of the Fable still cannot be confronted with the empirical data resulted from direct observation because the actual reality of the non-incidence is not accessible to the senses. The observation stays silent while reason speaks. There can be no *dialogue* between reason and empirical observation regarding the race. The referee cannot provide an additional and independent argument either. Quite on the contrary, he is at the disposal of the demonstration. The race finishes with a clear failure on the part of the empirical observation. It cannot offer anything, it is not needed, and therefore is automatically excluded from the competition. As different from the truly paradoxical cases, in which we have a contradiction between the real facts and the results of a demonstration, in the present example we feel tempted to speak of a *concordance* between them. But what kind of "reality" is that which is not accessible to the senses but to reason only? It seems that it is the absolute certainty of the non-incidence induced by the dianoetic thinking that was given here the misleading name of "reality".

But what conclusions would reach a human⁴ and indeed real referee? After a sufficiently great number of stages he would realise that he can no longer distinguish between the two competitors, and would feel entitled to state that the incidence has really occurred. This is when the clash between the data given by reason and the testimony of the senses would occur. It is however equally certain that the result communicated by the referee would not be endorsed. The referee will be disqualified. It will be demonstrated that his statement is false because... it does not faithfully present the facts as they "really" happened. For in "reality" the two competitors cannot meet, whereas he has stated that they have. The clash between experience and reason does not engender a paradox, but the disqualification of the sensory perception.

The contradiction between *empiricism* and *reason* is obvious here. No paradox arises, because the empirical judgement opposed to the conclusion of the demonstration is rigorously false.

...in spite of the labyrinths that appear at the very heart of labyrinths.

ALDOUS HUXLEY, *Literature and Science*

THE ABSTRACT TRUTH AND THE CLASS OF THE GENERAL TRUTH

It is clear that the notions of truth and existence determine and define a *class of concepts*, or of structural propositions much more varied and richer than one may initially suspect. Dramatic, literary, and historical characters disguised in concepts float around next to ethical, biological, nuclear, geometrical, numeric, and algebraic concepts – each belonging to a subclass together with its opposite. Concrete concepts next to superposed abstract

ones. Next to the concrete theatre parts, the concept of part, and next to the concrete specific existences, the very notions of being and of truth, the notion of non-being and of falsehood. All these are elements of the same general class, and so are the notions of general truth and unspecified *concrete existence*. Among the different notions, or groups of notions, there may be different *links*, connections or contradictions, or there may be no links at all, just as there are not any between Faustus' Margaret and non-Euclidean geometry.

Yet all these concepts and their corresponding truths, real and true, false and fictitious, do have in common a most remarkable trait: they are elements of the same class of existence and truth. Their *reunion* thus generates the notion of *general* truth, and general existence respectively. Their logical *intersection*, what they have in common, generates the concept of *abstract* truth, and of abstract *existence* respectively. For they all exist and are true due to the same truth, and multiple as the concrete appearance of truth may be, it is always the same truth that surfaces in different forms. It is totally inappropriate to speak of *mathematical truth* in opposition to or as different from the *biological, historical, or artistic truth*. *The truth* as a notion is *unique and the same* all over, although it may embody different concrete aspects, such as concrete truth, anti-truth, general truth, and abstract truth.

First and foremost it is surprising that this class of truth should display the same structural variety and complexity of relations as mother-nature: it is actually itself a kind of *nature* that lends itself to endless investigation, like an object to be known. This very class divides into two: a class of *truth*, or of the real concept, and a class of the object-like noetic *existence*, in which each concept and truth has its own *model*. These two universes enter within the spirit the same kind of relationship that existence has with the thought existence, the latter notion being, in the paradoxical sense which we have met so often, exterior and interior to existence.

Secondly, taking the terms "truth" and "existence" separately, each has two dual interpretations: the general truth appears as a class made up of the *reunion* of all the relative and specific truths. Compared to this, the abstract truth appears as *one single point* of the conceptual space, a unique and indivisible concept generated by the intersection of all specific truths. That is why we believe that the denominations of *simple* or *absolute truth*, and *simple* or *absolute existence* respectively, introduced by Aristotle⁵, are fully justified; the term "absolute" has here the significance of *autonomous, and independent of any specific determination*. The term "*partial truth*" is thus justified too, taking as a model the expression 'partial existence' used by Aristotle, and can be used for what we have before named specific existence, or *essence*. For this truth and this existence are but one element of the general class, and are part of *this universe*. We therefore deal with *one and the same truth* and *one and the same existence* simultaneously conceived under their dual aspect: abstract and absolute – in the qualitative terms of *compre-*

hension, and concrete, specific, and general – in the quantitative terms of *extension*. Thus, the class, or the sphere of the notion of truth contains not only all the specific truths and their specific negations, but the abstract notion of truth and the abstract notion of falsehood too. Which means that it contains itself as an element. In a similar way the universe of existence contains the *cosmos* and the *anti-cosmos* as such, besides the specific domains of existence and of non-existence.

At an initial stage of consciousness, the simple and the specific existence were co-substantial. In other words, the general class of existence included as a specific existence only the abstract existence, and, analogously, the class of truth consisted only of equivalent truths, therefore, essentially, of *one truth only*. So, instead of this unitary existence and of one unique truth we now have *two* enantiomorphous variants of the specific existence: existence and anti-existence, and truth and anti-truth respectively, both being from now on opposite particular cases of the general class of existence. But, although polar opposites, they do possess a common feature, namely that of abstract existence, of simply existing, of belonging to the same class of existence. The quality of abstract existence associated to the general class of existence becomes in its turn a *third* kind of existence, and consequently the class of existence includes itself as an element. The universe of existence knows itself as existent, knows that in any of its opposite forms it has the quality of existing. Thus, the class of general existence contains the *two* opposite kinds of existence, namely existence and anti-existence, as well as a third existence, namely itself, the *abstract* existence, which appears as exterior to the first two but interior to itself.

THE DUALITY OF THE CONCEPT OF TRUTH

The same unique concept of truth is manifest in thinking in its dual aspect. First as truth as such, or *simple truth*, i.e. as a logical value (expressing the correspondence between the object in itself and the conceived), and then as specific truth, in the form of comprehension. But “the abstract truth” is itself a specific quality: the specific quality of being a form of truth. Therefore, it has one single mark among the multitude of marks of its comprehension, namely itself. In this respect it belongs to the dual class of general truth, as a genuine element, and both dual forms of truth are immersed in the spirit, as if in a *Third* that contemplates them, distinguishes between them, and contains them simultaneously, identifying with both by coincidence and complete co-substantiality. When we pronounce the word *man* or *triangle* we simultaneously think, sequentially or separately, of either a man or a triangle as of a single and unique qualitative determination, or of *any* of the present, past, or future men, of all the men statistically probable or literary possible, so of the man A, or the man B, ..., or the man N. Similarly,

when uttering the word *truth*, we think either of the truth as a logical value, i.e. something that is truth as such, or of *truth* as a general term for *any* of the concrete truths, but with an *unspecified specificity*. So, either of the sentence p or the sentence $p^* = \text{non-}p$; the concept of natural number, or rational number, or real number, or complex number; being, or non-being; the self, or the other; the real, or the fictitious; right and justice, or wrong and injustice; the good, or the evil; a real, or a counterfeited coin; the beautiful, or the ugly; the matter, or the anti-matter; the left, or the right; a historical life, or a theatre play; a person, or a dramatic character; positive, or negative, etc. The terms of truth or existence in their general form can replace *any* of these; and conversely, *any* of these can replace the terms of *truth* and *being*. And any of these terms simultaneously replaces in speaking *the truth* and *the existence*, in both their dual aspects of absolute and *simple truth*, of logical value i.e., and *specific truth* and concrete existence. To this general class of truth also belong the terms of general-truth, abstract-truth, falsehood, lying, being, and non-being. So this class contains both *itself* and *its opposite*, as specific element.

It is clear that this way of expressing the truth by means of one of the specific terms *highlights* the sense of *specific truth* and *concrete existence*, while the genuine sense of *truth* as a logical value is obscured. The reverse also holds true: if we pronounce the words truth and existence, they will again appear in their dual aspect. On the one hand, they will appear as logical and ontological values, and on the other hand as bearers and substitutes of any of the specific concrete predicates and determinations. Of course that this time the sense of *abstract truth* and *absolute existence* will be *highlighted*, and the other meaning of the term remains hidden. It is however still present, carried by the same term. And it is precisely the awareness of this indivisible duality that characterises the same unique term that comes out, with so much intensity and artfulness, in Epimenides' paradox.

EPIMENIDES, A COUNTERFEITER

The paradox in its genuine form is solved in the same way as its other concrete variants.

The previous pages have shown that *we do not have a solution* in the positive and desirable sense of the word, because we cannot point to an error as source of the paradox. The solution amounts to that means of *avoiding* the paradox that has been offered by thinking itself as a natural process. And if we are to speak about solving the paradox of the liar, then we can think only of applying this natural means to a domain in which the spirit, as spontaneous nature, has not succeeded in instilling its own methods with the same compelling force.

There is a series of minor situations in which the spirit has avoided the paradox by acknowledging the multiplicity of truth and by layering the concrete, autonomous, independent, irreducible, and even opposite realities, willingly accepting that negating an already negative situation does not lead back to the opposite situation, but to an assertion of the same state in itself negative.

Thus, for example, *counterfeiting money* or paintings introduces to these domains the term *fake* and, together with it, *the logical value of falsehood*. A fake coin or equestrian statue are not genuine and true in the strictly logic sense of the term. Yet it is common knowledge that since the fake is the rigorously exact reproduction of the original, this operation in its turn can be endlessly reiterated. Thus, if we take the fake (1) as the original, we can obtain the fake (2), ..., the fake (n), the fake (n+1),... (it seems that Leonardo's Gioconda has gone through the first n terms of this series along the centuries). Eventually we will be able to consider the original itself as the fake (0), "the zero fake" in all respects. It *originates* the series of fakes; any fake will follow the original, but the latter is not the follower of any preceding fake. Thus, we call "original" that fake that has *fake successors* but *no predecessors*. It becomes obvious that we deal here with a universe of paintings or coins which all bear the name of *fake*, belonging thus to the same *class* of fakes and juxtaposing as irreducible and irreplaceable entities because each of them is fake *when compared to another*. But we might as well give them any other name, for instance that of "original" or "true", preserving however the previous convention of attributing an *ordinal number* to each of them. This is a way of marking the fact that none can be mistaken for or replaced with another. It might be the case, although not necessarily, that the ordinal number should indicate the fact that the object (n+1) – for instance – derives in some way from the object n. In this case everybody accepts a layering, a stratification, and a *hierarchical ordering of fakes*. And everybody speaks easily of "more false" or "less false" *fakes*, of an original painting that is more original than another original, of a fake coin more fake than another fake coin. Of course these all are at the same time the reproduction of the same figure from a coin, from a painting, or from a statue. To give just an example, Plato's bust that we now consider the last original is in fact but an original of the *nth order*, a late Roman copy of a Greek original of the *zero order*, itself a *fake* of the *nth order*, less fake than the copy made after it, the fake of the *order-(n+1)*. For any uninformed witness, this universe of busts, all of Plato, or a collection of Cretan coins with Epimenides' effigy, or the same portrait of the Gioconda, they are all *absolutely identical* as geometrically congruent figures, and, being interchangeable, are reduced to one single archetype.

The geometric congruence of the elements in this universe corresponds to the existence of a *unique abstract truth*, of a *single* abstract existence that represents their common element. In reality however no copy can substitute

another without committing the *artistic* or *numismatic crime* of replacing the original with the fake, the truth with the false. The fact that an element of this universe of fake coins or paintings, all having *the same face*, is produced through copying – and therefore forging – another one is a realisation that belongs to the space of immersion of these objects. Their irreplaceability arises within each in the form of *identity awareness*, which is the awareness of its originality and its being irreducible to another copy that will appear as fake when compared to the original referred to. Everybody accepts without any resistance the fact that a fake coin, copied after another fake coin, is still a fake coin, although it, the fake coin of the $n+2$ order, is the fake of a coin of the $n+1$ order, in its turn the fake reproduction of the coin of the n order. Thus, we have the following sequence: coin $(n+1)$ =forging coin (n) , coin $(n+2)$ =forging coin $(n+1)$ =forging fake coin (n) . *The double negation*, the falsehood of falsity, does not lead back to the original coin (n) , which represents here *the truth* of the numismatic universe. And no one feels tempted to consider the forged fake identical with the original, and the paradox does not appear because the museum or the numismatic cosmos definitely rejects the dichotomy true-false, and relies from the very beginning on the multiplicity of fakes, of the layered and irreducible truth and reality respectively.

But all the fake busts, paintings, and coins are endowed with the same real existence as the unique originals. Each represents an autonomous universe that can have the consciousness of its own being. If Epimenides' effigy on the Cretan coin (forged by others, quite possibly by Hikesios too⁶), or the Gioconda's head on the forged paintings could think and have the awareness of their own fake character, they would each have to utter the aporeic discourse that would get us lost in the Cretan labyrinth. "I am a fake", would say a fake coin, and this sentence is true if and only if the coin is fake. The fake self-asserts its being fake, i.e. it asserts something true. We do not see this as a paradox because we know that the fake coin does nothing else but assert its state, which is that of being fake.

The following expression applied to a painting: "this is a fake fake", lends itself to *two contradictory interpretations*.

1. The painting is not a genuine fake, it is not a really fake painting, it only pretends to be so. It is an original, which misleadingly claims to be fake. This would be the case of apocrypha falsely presented as copies of an original, as apocryphal fakes. Epimenides casts a coin with his own profile, a fake coin, which does not imitate any other coin, a coin autonomously fake, whose original is already counterfeited when released from the Cretan mint. According to this interpretation the word "fake" has first of all an intrinsic quality, and secondly a logical value. The sentence itself is a meta-sentence, a statement *about* the truth-value of a sentence: the sentence stating "this painting is a fake" is itself *false*. Of course such a painting is not an original in the proper sense of the word. Folklore gives it the distinctive name of *pas-*

tiche, thus acknowledging a stratification not only of the universe of reality, but of that of unreality and falsehood too.

A pastiche is thus *different*, more fake and more un-original than a regular copy. This fake is a *meta-fake*, just as faked hypocrisy is meta-hypocrisy, but ultimately still a form of hypocrisy. To fake hypocrisy – although a negation of an already negative state – is not a process leading back to sincerity. Quite on the contrary, while usual hypocrisy is sincere and artless, meta-hypocrisy is insincere and deceitful, even as hypocrisy; it is the perfect hypocrisy.

2. According to the second interpretation of “this painting is a fake fake”, the fake appears as its own *tautological* predicate: this is a *fake* fake, a truly fake painting. A genuine fake, would say an expert, for example, or a criminologist, and the phrase looks in its purely phenomenological sense like a conscious acknowledgement of a *negative state*.

The paradox would arise only if for some reason we would introduce the definite *dichotomy* between truth and falsehood, and would thus accept but *one truth* and, consequently, one fake in the universe. Similarly, we do not mind statements of the kind: “something else is something else”⁷, and see in them a tautology similar to the opposite statement: “something is something”. And this because we spontaneously accept the fact that there is no unique and indivisible something, and that any “something else” is still a sort of “something”, if of course another kind of “something”. In this case too the thought folklore allows for a stratification of the multiple and irreducible realities, just like in the case of a painted portrait that can be seen on the wall of a room itself painted. Everybody would accept, without paying too much attention to the actual mental process, that the portrait on the wall is equally fictitious and imaginary, and namely by the same painter who created the painting in which the wall of the room can be seen. But they would also admit, and equally spontaneously, that for a painted person in the painted room the meta-portrait on the wall is a fictitious image, while the chairs and wall itself together with the painted canvas represent the *primordial* reality. The meta-painting is a negation of the immanent reality of the room, which in its turn is, as an image, the negation of the really real room (in case a real model has indeed existed). However, the meta-painting, a negation of the reality negated by the imagination, is never considered as identical with the zero degree reality of a landscape that it might represent. Everybody agrees that the reality of this meta-landscape does not need anything exterior in order to exist, and under no circumstances can it automatically change into a landscape of primary reality just because it represents a *negation of the negation*. In phenomenological terms, the negation of the negation is not an involutive operation, precisely because the process through which the spiritual universe awakens to self-consciousness blows up forever the dichotomy of the universe in *true* and *false*. Which means that it destroys the unity and uniqueness of existence, of reality, and of truth. We suppose that this is the

sense, radically different from the conventional one, in which Hegel understood the expression "the negation of the negation". The negation of the negation is *an* affirmative statement, but not *THE affirmative statement*, just yet *another* one: the assertion of the negative. Forging the fake does not yield *the Truth*, but just *a truth* – a new and different one: the truth of falsehood.

Another case, trite in itself, but extremely artistic, in which occurs again the spontaneous acknowledgement of stratified realities, is the example of *parallel mirrors*. The image of the right hand is a left hand. The right hand is the true, real hand. The left hand is purely fictitious and imaginary: the fake hand. But the image of this image, i.e. of the left hand in the mirror, is a right hand, though not the real right hand, not the genuine object, but an imaginary, *non-identical right hand*, congruent however with the somatic right hand. Thus, "the image-right-hand" is a reflection of a mirrored image, a negation of the negation, but one which is not obviously identical (although congruent) with the initial original. The negation of the negation of the somatic right hand is itself a negation, a negated hand, a fake hand, but one that is again *a right hand*. The right hand appears now both in the hypostasis of truth and in that of falsehood, just like the false counter-Euclidean proposition p^* with the same true non-Euclidean one p^* .

Similarly, within the universe of independent consciences, the existence of different *selves*, the relativity of the state of self-consciousness respectively, is a well-known and accepted fact. To assert the uniqueness of a single concrete and absolute *self* would seem paradoxical, despite the fact that *the dictionary* knows only one and the same word "self", which is pronounced in the same way by all individuals.

Within the field of truth and falsehood the situation is quite the opposite. To assert the multiplicity and relativity of concrete truth sounds strange, while the thesis of the uniqueness and unity of truth, and the co-substantiality of the unique word "truth" with a *unique notion* seem natural and acceptable. In reality though, the very utterance of the meta-sentence: "I am false" splits the monolithic universe of the unique truth, and another kind of truth appears, *the truth (2)*, opposite to the genuine *truth (1)*: *truth (2) = non-truth (1)*. But since the dictionary does not include such strange terminology (obviously created *ad hoc* with the only purpose of expressing a fact), we can resort again to the established denominations and use, in order to emphasise the consistency of the new-born truth with its pre-natal state, the term "false" as a name given to *another truth*, opposed to the mother-truth. Whether truth (2), false or non-truth (1), they all represent *irreducible and autonomous realities*, and they all belong to the same class of general truth ("the third"). They all have in common that *truth* which is simply expressed through the word "truth" or "existence", without the ordinal number standing for the abstract truth and the abstract existence. The *general truth* is expressed through the phrase "*truth (n)*", "*reality (n)*" respectively, in

which n is a variable that can be *replaced* with any ordinal number of a concrete truth or reality.

The paradox of the liar – like any other paradox – renders in the guise of a small and perfect drama the clash of the spirit with itself and with the state of affairs that is manifest within a universe split in a multitude of relative, and at times even opposite, truths.

LYING AS THE SELF-CONSCIOUS FALSEHOOD

Through the paradox of the Liar the spirit makes public testimony of the fact that it knows. The word ‘false’, once *uttered*, irrespective of its genuine significance, represents a self-sufficient *something*, an independent verbal object, which can speak itself and speaks about itself and about its nature without needing another system of reference.

Under these circumstances, one might object that maintaining the same term, “false”, for the logical value, i.e. the false element itself, and for the predicate, i.e. the anti-truth itself, is an error. Nevertheless, maintaining the same name is perfectly legitimate and correct, we might say even compulsorily, since the *specific essence* of the thing is the same. The false as logical value is homologous to the counter-Euclidean sentence of Euclidean geometry, or homologous to the being in embryonic state. The specificity of the thing in itself does not change when it comes out of the universe of truth and, leaving its subordination behind, it deserts its non-being and enters its own state of being, setting up its own autonomous universe, the universe of the *in-and-for-itself* fake.

In the case of moving from the Euclidean and counter-Euclidean geometry to the non-Euclidean one, the paradox remains hidden and is prevented from emerging by an instance of *terminological insincerity*. We can easily accept the separation of the term “false” as a logical value from the expression “non-Euclidean”, although we did at the beginning attribute the same significance to both words.

2 In fact, in this case *too* we deal with a splitting of the same term into logical value and predicate. It is true that the class of specific truths contains an infinity of concepts and deductive systems respectively, all true. It also contains the term of truth itself, and any of the specific truths, for instance proposition p , can replace this abstract truth, and the other way around. If such a concrete, specific truth is seen only in its aspect of *truth*, then the unique word *truth* can in fact replace *any* concrete truth. The procedure is absolutely identical with that through which “*any natural number*” is replaced with the letter N , and the other way around. When we speak of a natural number we use any concrete natural number as a vehicle for this general and abstract feature. This is why the entire drama of the phenomenological metamorphosis, in which non-being turns into being, can be represented,

as an *abstract and general model*, only through the terms *true and false*. Thus, the Paradox of the Liar represents the abstract pattern of all specific concrete paradoxes within which the transition from non-being into being takes place and a false statement acquires the simultaneous logical value of truth.

Instead of the deductive system of Euclidean geometry represented by the proposition, and respectively the letter, *p*, we now have only *the truth*, with no specificity whatsoever. Consequently, the letter *p* stands only for *the in-and-for-itself truth* and not for "Euclidean geometry", "Euclidicity", "the Euclidean postulate", or any other specific concept defined by some proposition that is independent and endowed with the logical value of truth.

The formal system of *truth* is extremely simple, almost trivial. It is made up of two propositions, and two signs respectively: *p=truth* and *non-p=p**, which is the *false* proposition *from and within* the system of truth. In other words, the system is actually made up of two true propositions: "*p* is true" is a proposition belonging to the system of truth, and "*p** is false" also becomes a proposition belonging to the system of truth. The paradox is obvious now that an independent universe of falsehood appears, and the true proposition "*p** is false" becomes a proposition of the system of *falsehood*. But this moment is the homologous of the situation in which the true proposition "*p** is a non-Euclidean proposition" is also said to belong to the non-Euclidean universe. The logical paradox arises because *in* and *due to* the phenomenological process of awakening to self-consciousness, during the thinking process, the initial universe has split, and a new truth has been created, a truth that was not part of the initial catalogue.

Actually, in this case too the thought folklore has introduced rather fine linguistic distinctions, instinctively expressing the phenomenological irregularities of the object. Thus, we deem as very important the distinction between the terms *falsehood* and *lie*. "False" is the opposite of truth, but its falsehood is *known* only by the truth: we therefore deal with the false itself, the non-truth. *A lie however is the self-conscious kind of falsehood*, the false that knows itself to be false.

False can be a sentence which the speaker believes to be true, and thus he is wrong about the truth. A lie however is a false sentence which the speaker *knows* to be a lie.⁸ He who utters a false sentence does not have to know the truth himself. He who lies though, does so precisely because he knows the truth. The false statement *remains* the same in both cases. Only its *phenomenological status* changes. As a false sentence, it belongs to the universe of truth, because it is *de facto* subordinated to the truth, in the sense that only the truth knew about its falsehood. As a lie it becomes *autonomous de facto*, precisely because now it knows of the truth as of another, and of itself as a lie: it acquires the awareness of falsehood by delimitation from another, which is in this case the truth. The difference between falsehood as falsehood *in-itself-and-for-another*, and a lie as falsehood *in-itself-and-for-*

itself is obviously the same as the difference between a counter-Euclidean and a non-Euclidean proposition. (*"Die Lüge ist das sich als Falsch bewusste Falsche, also das für-sich falschlose Falsche. In der Form der Lüge das Falsche wird von sich selbst als Begriff des Falschen-ansich begriffen, und damit eine Wahrheit inbegriffen, nämlich die Wahrheit des Falschen das sich als das was es ist, also als Falsche, weiss"*).⁹) The counter-Euclidean proposition is false, but the non-Euclidean one is a lie, a proposition produced through "lying" – the specific autonomous activity of the mind. The act of lying continually enacts, one way or another, the paradox. Both men and animals can make mistakes. But lying is specific to men: only they are able to speak the false and be aware of what they are saying.

From a logical point of view lying is a paradoxical state. While uttering a false sentence is perfectly compatible with formal logic, lying is a paradox. It presupposes the splitting of the universe of falsehood into object and subject, the existence of self-consciousness in the world of non-truth. Through this, truth has appeared in the universe of falsehood. A lie is the truth through which something false confesses its own falsehood.

Finally, the thought folklore has produced another paradoxical model¹⁰, which epitomises the situation created on the transition from Euclidean geometry to the counter-Euclidean and non-Euclidean one. In the medieval form of "a chimera is a chimera", the paradox of the liar appears as a paradox of the non-being endowed with a specific being, its specific feature being precisely the non-being. The term *chimera*, a name initially given to a mythological creature belonging to the same zoological lot of monsters as the sphinx, the Minotaur, the Pegasus, the siren, the hydra, the stag, the griffin, etc., has suddenly become the replacement of the term *non-being* or *non-existence*. Something "is a chimera" – is but a more literary means of expressing something that does not exist.

In the phrase used in the previous sentence, namely "mythological creature", the determinant negates the head-noun: if *something* is *mythological*, it is completely *chimerical*, therefore non-existent. And yet *the chimera* is something very specific, something that can be defined, drawn, characterised in a (possibly consistent) discourse, etc. It represents *a specific attribute*, but one which identifies with the *non-being*.

In this paradox the spirit in fact confesses that it knows: non-being is a specific attribute and can always be *represented* by any concrete form of non-being, such as *a chimera*, or the term "non-Euclidean". It might have well happened that the language adopted as *a synonym* for *non-being* and *impossibility* the word *non-Euclidean*. And then, if it wanted to communicate that something is *impossible*, *non-existent*, instead of saying "it is a chimera", it would say "it is something *non-Euclidean*". In this case, the paradoxical nature of the proposition: "the non-Euclidean is non-Euclidean" would have been obvious.

THE PARADOX IN THE CONCEPT'S SELF-MOVEMENT

It is obvious that the procedure offered by natural thinking through the electrolytic polarisation of the racemic solution of truth does not solve the paradox. The essence of the paradox is that a *false* sentence is *simultaneously true*. This fact in itself is always valid, and thus the paradox "the false is true"¹¹ can only express a state of fact, and thus faithfully render a real paradoxical situation. The difference and the progress from the previous situation lies in the fact that the logical value of truth has been bestowed on falsehood and the ontological mode of existence on non-being. By acquiring these characteristics they both remain in their original place and are not cast out to the enemy camp of the opposite truth, and being respectively. *The false is truth in-and-for-itself*, but stays *false for-another*.

The manifest false is a hidden truth, and the moment it grows aware of its own falsehood, the intrinsic truth confesses and the false becomes true and visible like an independent source of light ("Like a great secret...it sheds light on you/And becomes true"). Previously, the paradoxical situation has been caused by the way in which the identity between falsehood and truth was interpreted, namely as a congruence between *the true-false=truth (2)* and the primary truth, *truth (1)=true-truth*. The equality between the two kinds of truth can be preserved to the extent to which two right-angled triangles symmetrical along the axis, for example, are considered equal, although they *cannot be superposed* through translations and plane rotations. But the equality between the two non-symmetrical truths can be preserved in a different sense too. They are identical as *truths in themselves*, just like two persons are equal and equivalent as persons, i.e. as concrete beings belonging to the same general class, or as concrete entities sharing the same, more abstract characteristic. In this respect there is no error in the paradoxical statement identifying the *false* with the *truth*.

We have an error only if we identify *the true-false=truth (2)* with *the true-truth=truth (1)*, because *truth (1)=non-truth (2)* and the other way around. But this error is a correct and necessary procedure from the point of view of formal logic, which does not acknowledge the truth's *slight duplicity*. The term *error* is valid only from a *phenomenological* point of view, i.e. only when the multiplicity of irreducible and independent truths is accepted. Or this is accepted *de facto* the moment meta-propositions, statements about statements, appear.

But if identifying *counter-truth=truth (2)* with its symmetrical truth, *truth (1)*, is a phenomenological error, then the inequality *truth (1)≠truth (2)* is a formal error from the point of view of formal logic, because this inequality allows for the appearance within the same and unique universe of truth of *another truth*, different from *the Truth* that has been accepted as such in the definition of the system of the world. We established at the beginning that the truth is *something*, and as we go along we also accept the fact that *some-*

thing else is a truth too. Or it is precisely this appearance of a *completely new truth* within a system, of an *alien* element that was not originally encompassed by definitions, and the creation of new truths within a clearly defined system that are the classical stigmata of the *error* from the point of view of formal logic. And this because formal logic has to see to it that the system be aseptically isolated from a hygienic point of view and kept uninfected by elements alien to it.

The solution provided by *natural thinking* gives us something concrete: the paradox, i.e. the identification of the false with the truth, occurs in the meta-galactic inter-worlds in which the opposite systems are immersed. Taken separately the two opposite systems of *truth* and *anti-truth* are devoid of paradox. In the system of *the truth*=*truth* (1), this truth (1) has the logical value of *truth*, and *truth* (2)=*anti-truth* has the logical value of *false*. Conversely, in the *anti-universe* of truth, *truth* (2), this *anti-truth* is identified with the logical value of *truth*, and *truth* (1) is the *false* one. Even if within the system of the anti-truth *the truth* still preserves the phonetic or graphic name of *false*, this has no importance whatsoever because the *calculation rules* applied to the word *false* are here *formally identical with those applied to the word truth*. The identification of the false with the truth, the primary operation through which it is established that both the truth and the false are *true*, is performed by a *Third* in the immersing space between the two systems. If the universe of truth is the first given, then attributing the value of truth to the proposition which within this system is rigorously false is in itself *an operation* that cannot be done within the system itself, but only *by* and *within* a *Third*, in the shared immersing space. Thus, the paradox arises always in the exhaust space between the two systems. This very space is filled by the paradox, because only the *Third* can hear how the truth states "I am the truth" and how the formal negation of the true sentence states in its turn "I am the truth", and accept and agree with both.

The *transition* from a given system to its opposite is always done through *simultaneously attributing* the logical value of truth both to the genuine truth and to the false. This simultaneity however is achieved in a *Third* immersing space. The paradox is confined and isolated here in an encapsulated form, without hindering in any way the rigorous and separate development of the two opposite deductive universes.

Not only that the paradox is not an error, not only that it does not represent a mortal danger for thinking (the only problem being the difficulty of avoiding it), but it is actually a correct form of reasoning, standing for the abstract logical structure of the creation of the new anti-universe, and being the element that gives new life. In the conceptual genesis of the new, a momentary genesis that is entirely timeless, the paradox is the vital fertile element that mediates the genetic mutation of a given conceptual universe into its anti-universe.

We can now better understand why the exclusion of the paradox from the universe of thought has so far been a failure. *The paradox appears spon-*

taneously wherever the new is created, and not only it is not dangerous and harmful, but it actually proves to be the genetic element of conceptual fertilisation. If the paradox is an illegal act, a sin, or perhaps even a fallacy of thought, then it is a sin that cannot be prevented (*"non possumus non peccare"*) if the universe wants to avoid being stuck in a state of absolute barrenness, and to progress. But this vice is absolved from the responsibility of sin and turns out to be a virtue if practised secretly, in a place specially designed for this purpose. Like this it is a benefactor, otherwise a crime. But within the universe of secret, the secret is a secret only if it is known as such. Thus, within this universe, a secret is a thing known as a secret, and the secret sin is itself known as a sin in this immersing universe that the Third is. But sin-awareness is in itself a virtue: the acknowledgement of sin as sin. The universe of sin produces its own virtue by rising to the awareness of its own vicious state, and consequently the sin turns into a meta-sin, i.e. into repentance.

This Third commits the sin of paradox fully aware of being sinful towards the laws of formal logic. Here however the virtue of this repentance consists in perpetuating the logical vice. The ultimate virtue of this immersing universe is the logical vice, and its fundamental law is precisely the logical and formal lawlessness. The feared beast of the paradox turns thus out to be but a mild and useful domestic animal.

ART AND PHILOSOPHY

According to the language of set theory, the simple existence and the abstract truth are represented by the concept, or the qualitative mark, of null. They are void of any specific, concrete determination, and just like the null set is part of *any* set, the *null mark* is part of any qualitative mark. In exchange, the *general* truth and the *general* existence stand in the all-inclusive language for *the universe, totality, the multitude of all sets*, with all the unavoidable contradictions that come out in the outburst of paradoxes.

The repeated attempts of founding a theory of sets free of contradictions rely on the belief and hope that the universe of all sets and all notions observes the same laws as the partial systems, as the specific totalities that are part of the universal totality. With this, without realising it, mathematics has turned to the study of that paradoxical spiritual being which has been known, ever since Pseudo-Dionysus the Areopagite, to defy characterisation unless by means of the negative and contradictory attributes.¹² Doubtless that mathematics will find its way back to this apophatic heresy, achieving again a new symbiosis with the traditional philosophical meditation.

Of course, mathematics is *not* a philosophy, and has never been. If in the field of natural sciences it is *Nature* itself that arises to self-conscious-

ness, in philosophy it is the nature as spirit, as human spirit that gains the consciousness of its own essence. But this route is complicated and obscure.

Art for instance is one of its major routes. Here man becomes conscious of himself as of an element part of an emotional and ethical universe. But art is not the knowledge (*das Wissen*) of man as nature, of man as he is. *To know* this man pertains to certain natural sciences (*Wissenschaft*), such as psychology, history, and sociology. As different from this, art is the knowledge of man as he *should* be. Art is also the *technology* through which man acquires new faces, which he does not possess in his genuine state. Thus, it is only due to the art of the medieval poets that the modern man has come to know love. Love in the present meaning of the word is an invention, a relatively recent creation of poets, a feeling that the ancient were ignorant of since it had not yet been invented.¹³ Thus invented, love was given to men, who now benefit from it as from a sewing machine, a TV set, or a pen. History, sociology, and psychology are also means that facilitate the awakening of man's self-awareness. This explains their role and temporary presence *in and next to* philosophy.

But the connection between art and philosophy is eternal and necessary, for through the vehicle of entertainment, and through the means specific to direct artistic experiences, art is also trying to answer the major questions that lie at the core of philosophy: what is man, what he can be, what he can become, and above all, what he has to be. Or, what is the definition of the limit-man, the ideal man – the only who has access to the eternal and unchangeable reality, towards which the common man, endowed with a trivial and transitory reality, must tend. In this artistic endeavour *man* also becomes conscious of the stratified multiplicity of the different layers of realities. Discussions around problems such as: which is “real” – the immaculate hero of the poetic exaltation or the flesh-and-blood man of the realist novel –, reflect the spontaneous and implicit recognition of multiple realities, fact that also transpires from the use that is made of the euphemistic term “artistic reality”, or more recently “fantastic realism”. “This cannot exist in life, only in novels and films”, they say, implicitly acknowledging the existence of *another* reality. Or, of two antithetical characters in the same novel, one will be perceived as “real”, the other as “unreal” – “of the kind that you find only in novels” –, although they are both part of the same novel.

8

But art and philosophy share another important feature. Man can be known with the help of psychology, history, and sociology because they are sciences and their results can be acquired through direct study of the subject, or through explanation and learning within a demonstrative discourse. *Art however cannot be acquired through explanation*: artistic persuasion functions according to different methods, and if it is not assimilated by means of direct emotional participation, then discursive explanations are to no avail. On the other hand, once assimilated, the new element communicated by the work of art will never be forgotten. This does not mean that what we have understood by means of artistic communication becomes part of our memo-

ry: by understanding and assimilating the artistic object we actually turn into that object. What we find out about man from history or psychology can, and perhaps should too, be forgotten at a certain moment. Artistic understanding is irreversible: the new dimensions of sensitivity acquired through art cannot be forgotten. We cannot return to our – by now left behind – uneducated stages.

Similarly, philosophy cannot be learnt, nor can it be forgotten, once assimilated. The philosophical persuasion also means an essential transformation of the substance it pervades. Through philosophy, the spirit reaches a superior dimension of self-consciousness. Consciousness itself reaches a new and irreversible state: we cannot go back to inferior states, once we are past them, we cannot help being conscious, once we have grown conscious. We cannot go back to the early ages. The progress achieved through philosophy cannot be lost. That is why, when perceived from an inferior point of view of the state of consciousness, its superior state is expressed through a discourse that appears absurd, vain, banal, and useless.

PHILOSOPHY AND ART AS *TECHNÉ*

If art takes part in achieving the purpose which the philosophical meditation has set out through defining the transfinite concept of man, it must also be said that this philosophical meditation is far from being passive contemplation, as it is usually perceived. It is, on the contrary, an intense inner activity, whose effects compete with those of *art* seen as a *technique* of transforming the human spirit. It is like an agricultural technique that, when applied to the as yet uncultivated field of the spirit, transforms it into a cultivated one, and even into a crop. In the case of usual techniques, the spirit lends itself to the exterior nature in material, and consequently non-spiritual, forms such as different machines, buildings, bridges, ships, and generally everything that makes up our material culture. In philosophy and art giving is reflexive: the spirit gives itself to itself in the form of those spiritual artifices that are going to change its appearance, artifices that will themselves become elements of the natural inventory in endless development.

But in the field exterior to nature, *knowledge and creation, science and technology* are two activities clearly distinct, both in time and in their character. The knowledge of nature that tends to know nature *as it is* does not allow for any essential intervention in the studied phenomenon, in an attempt to perceive it in its unaltered form. This kind of knowledge *aims* to be (although it does not always succeed, for instance at the level of the observation of elementary particles) a *passive contemplation*. The act of knowing nature would thus be more of a *passive attitude*, a passive reception and recording of impressions taken from the exterior. Only *technology* is active,

since it is the only one that can bring about changes in the initial state of natural things. In one of his early writings, Aristotle has called this knowledge (*das Wissen*) of nature¹⁴ *theoretical Physics*, contemplation of nature. *Only the artistic and philosophic knowledge is not contemplation*. Only the philosophical meditation *is not passive*. Quite on the contrary, to the extent to which it is a form of knowledge, it is *active*, because knowing the object coincides here with its organic assimilation by the subject, in the sense that the subject *actually turns into the object* that is being assimilated. Knowing an atom, a molecule, a star, or a cell, the spirit does not turn into an atom, a molecule, a star, or a cell. However, meditating on the concept of perfection, good, virtue, transfinite man, etc., the spirit feels engaged in this activity with its entire being, with its entire organism. The spirit is *not* a blackboard on which an invisible hand writes a discourse. It is itself the discourse, and the very moment the spirit utters it, its whole being takes the graphic form of the discourse. The spirit thinks just like the living body lives, and in the philosophical meditation the spirit takes the exact shape of the thought thing, and so does artistic creation too. And the *assimilation* of an object by the spirit, for example the concept of *good* or one of the features of the *ideal man*, means that the spirit turns into what it thinks. One can design Hermes's face on a polished marble slab only if this face is previously given as existent outside the slab, which will be able to preserve it without any alteration. But should the marble slab *think* the face of the god it has never seen, then it would irreversibly turn into this face, which will actually *exist* only from now on.

In the field of the knowledge of nature, the mirror-spirit always thinks of an object. As part of the philosophical meditation the magic spirit *thinks* the object itself, and the assimilation of the object is identical with the assimilation of the spirit to this object. To think the object is to transform the spirit in the thought object.

In fact, the object of the philosophical *meditation* – which object is actually the spirit in its objectual hypostasis – appropriates the subject-spirit, forces it to depart from itself, to renounce the state it is in, and raises it to itself. In the case of *technology* applied to nature, the superior subject devotes itself in an objectified form to the inferior nature, elevating it to itself. The spirit descends to nature, giving it something of its own. The philosophical meditation sees that the inferior subject appropriates the superior spiritual object, elevating itself to it and thus becoming richer as subjective spirit. In the body of the spirit, the philosophical *meditation* and the artistic sensitivity have the same function as *living* has in the carnal body of a being. This vital organic activity of the spirit, its assimilation to its object, induces a phenomenological metamorphosis of the spiritual substance. Knowing and appropriating an idea, the spirit turns into this idea, and this transformation engages its entire substance, causing profound tectonic movements within it.

The philosophical meditation is a transformation of the spirit accompanied by emotions and not by a cold analysis or contemplation. Only this, together with art, can induce that state of maximum feeling, the ecstasy: the feeling that arises from the union of a given human being with the transfinite and transcendent absolute, which it carries within as an objective. Only the aesthetic sensitivity and the philosophical meditation can produce the artificial eros. More particularly, the philosophical speculation is the only one that can elate the spirit to the highest degree of incandescence, the so-called *amor intellectualis*.¹⁵

MATHEMATICS AND PHILOSOPHY

Mathematics is another major means of awakening the spirit. Through it, and only through it, the spirit gains the awareness of itself as a universe of concepts. The study of the spirit as a totality that includes all thought things has always been the most attractive topic of philosophical meditation. Mathematics has often proved useful through its concrete applications to the study of natural phenomena. It has then been discovered that formal logic can also, at least partly, be subjected to a mathematical treatment. It is widely believed that this formalised part of thinking would alone deserve the name of philosophy.

But it has become increasingly obvious that mathematics can now be applied to those fields of meditation that have previously been rejected by mathematicians and logicians. In fact, it is not mathematics that applies itself to the investigation field of *the cosmology of spirit*¹⁶, but the other way around, the spiritual cosmos appears constantly within the field of mathematics as a paradoxical *totality* that is the object and raw material of mathematics. And this part of the mathematical research aiming to describe and know the conceptual universe as a totality is one of the main philosophical devices. This spiritual cosmos can be mathematically treated only if mathematics refrains from applying to it its research programmes, which are valid only partially within different conceptual systems. But this implies the adoption and open acceptance of one of the most important results ever obtained by the pure philosophical meditation in the spiritual effort of self-knowledge: the contradictory character of the conceptual cosmos represented by thinking itself or the spirit in the form of the Intellect. Or, mathematics had previously been intent on applying to the Intellect the specific laws of the spirit as Reason.

It is worth noticing that this close relationship between philosophy and mathematics has been manifest along the centuries through an intertwining of philosophical and mathematical researches. More often than not this relationship materialised in a remarkable union within the same person of great

mathematicians and philosophers, such as Architas, Eudox, Descartes, Pascal, Leibniz, and Russell. This objective and reciprocal interest between mathematics and philosophy is also due to the fact that defining mathematics belongs, through its very essence, to the philosophical meditation.

The object of natural sciences can be positively circumscribed, within certain limits and oscillations.

We do approximately know which is the object of study of botany, astronomy, geology, and even biology or chemistry. However, defining the object of study of mathematics has for ever been a major difficulty and has gone a strange *apophatic* route. So far only the negative features have proven to be enduring attributes of mathematics. First and foremost, “mathematics is *not* a natural science”. Then, “mathematics is *not* logical”, in the sense that it cannot be reduced to formal logic. There are others, less interesting perhaps: mathematics is *not* a science of quantitative measurements. Finally: mathematics is *not* philosophy either. But the effort to give a positive answer to the question “what *is* mathematics” is an important part of the effort to find an answer to the basic problem of philosophical interrogation, namely “what is man?”. What is man doing when doing mathematics? – here is a question of huge importance for the spirit’s attempt to know itself.

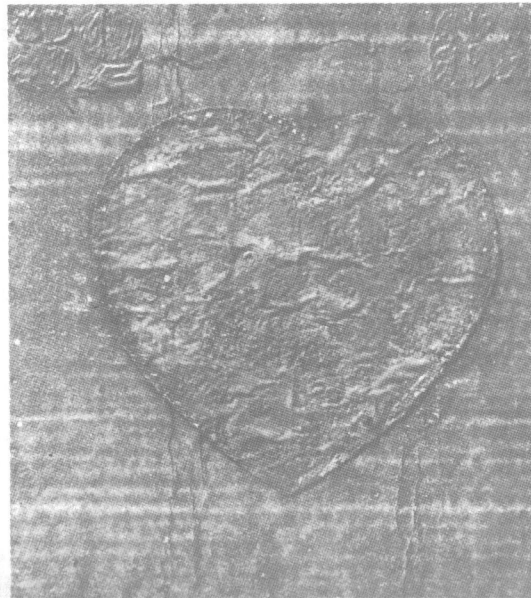
Aristotle was probably the first to realise that it is not for any science to justify its principles.¹⁷ More specifically, justifying the axioms he makes use of is not the concern of the *working mathematician*. To justify the presence of these axioms is within the scope of philosophical meditation. What is the mathematician doing when “doing” non-Euclidean geometry? This meta-question does not concern the mathematician who demonstrates non-Euclidean geometry theorems. Yet it is of great concern for those who want to know the intimate nature of the human spirit, for one thing is clear. When he did non-Euclidean geometry, the mathematician was not aware of a pre-existent spatial continent, but performed a singular act, specific to the spirit, precisely because through this act the spirit manifested its autonomy, allowing its own nature to function.

English version by Dana CRĂCIUN

NOTES

1. Undoubtedly *Testudo geometrica*, of the species *Testudo graeca*. – For zoological details see Wermuth-Mertens, *Schildkröten, Krokodile, Brückenechsen*, Jena, 1961, pp. 204, 207.
2. History, on the other hand, proves – as I have shown before (see *Bulletin de la Société des Sciences Numismatiques de Babadag*, t. XCVII, p.967) – that the race actually took place on the island of Aegina, some time around the middle of the 6th century: the inhabitants of Aegina produced their famous coin as a reminder of this victory, impressing the winner’s effigy on one of its sides (for numismatic details see C. M. Kraay, *Greek Coins*, London, 1966, p.113; W. L. Brown, *Pheidon’s alleged Aeginetan coinage; Numismatic chronicle*, 1950, p.177).

3. "For instance man or perchance god" – says Aristotle (*The Physics*, 262 a 3). Indeed, in chant XXVII, 8-9 in the *Iliad*, the Turtle is given the face of Phoibos Apollo, whom Achilles chases in vain).
4. Plato, *Theaitet.*, 201 C.
5. *Anal. Poster.*, 89 b 39-90 a 2.
6. Diogenes Laertios, *Lives, Teachings, and Sayings of Famous Philosophers*, VI, 20, Bucharest, 1963, pp. 299-300.
7. Plato, *Parm.*, 147 D-148 C; 164 C. – Nicolai de Cusa, *Directio speculantis de non aliud*, edit L. Baur-P. Wilpert, Lipsiae, 1944, pp. 4, 23-29; 5,1; 6,7.
8. Plato, *Hippias min.*, 365D; *Gorgias*, 459 B; Paul Valéry, *Oeuvres*, Paris, 1963, vol. I, p.1064.
9. Morcolphus de Colonna, *Verteidigung des "triplex usus mendacis" bei Amalricus Samuscastrensis*, in *Archivum Amalricanum Historicum*, XLII (1871), p.298.
10. Ioannes Buridanus, *Sophismata Buridani*, in Louise Nisbet Roberts, *A Chimera is a Chimera; a Medieval Tautology*, - "Journal of the History of Ideas", vol. XXI (1960), pp. 273-278.
11. This is the significance of certain current euphemistic expressions, such as: "the story" (i.e. the conscious lie) "is true".
12. Dionys Areopagita, *Epistola ad Hierotheum*, quoted in N. de Cusa, *De non aliud*, p.32, *De docta ignorantia*, lib. I, ch. XXVII (*Opere/Works*, vol. I, fol. XII r). – See also Hildegard de Lavardin, *Alpha et Omega*, in *Patrologiae latine*, accurate J. Q. Migne, Parisiis, 1844, vol. CLXXI, pp. 1411-1414.
13. Denis de Rougemont, *Die Liebe un das Abendland*, in "Merkur", no. 217, XX, 1966, pp. 333-355.
14. Aristotle's *Protrepticus*, ed. I. Düring, Frg. B 18-21.
15. Spinoza, *Ethica*, lib., V, prop. 33-38.
16. It is remarkable that of all natural sciences only astronomy displays paradoxical features similar to mathematics. Only here the real physical universe is contained within itself (in the form of its concept: our image of the cosmos, i.e. the image the cosmos has of itself), and only here the subject appears as exterior to the entire universe, this being the object of its scrutinising investigations.
17. *Anal. Poster.*, 77 b 5-6; *Eth. Nicom.*, 1140 b 34; - see Bonitz, *Index*, 111 b 58. – Plato, *Timaios* 51 C, *Theait.*, 202 A-B.



IMRE TOTH, born in 1921 in Satu-Mare, studied Mathematics at Bolyai University in Cluj. Later on he worked at the Department of Mathematics and Physics of the University of Bucharest (1949-1969). He was *Gastprofessor* at the Institute for the History of Nature Sciences, Goethe University, Frankfurt am Main (1969-1971). Beginning with 1972 he was Chairman of the course on the History and Philosophy of Science at the Institute for Philosophy, University of Regensburg. He was Visiting Fellow at Princeton University (1975-1976), and member of the Institute for Advanced Study, Princeton. Among his various publications, *Das Parallelenproblem im Corpus Aristotelicum*, in *Archive for History of Exact Science*, vol. 3, no. 4-5, Springer Verlag, Berlin-Heidelberg-New York, 1967, and *Achilles. The Eleatic Paradoxes in the Phenomenology of the Spirit*, Bucharest 1969. In 1995 he published *Palimpsest. Propos avant un triangle*, Diderot Editeur, Paris. He has also completed a work on *Les fondements axiomatiques de la géométrie chez Aristote*, published in France and Italy.

Achilles. The Eleatic Paradoxes in the Phenomenology of Spirit is Imre Toth's most fascinating book, and one of the quaintest cultural endeavours in the second half of the century, and this holds true not only in Romania. It is in fact an experience of post-modern philosophy *avant la lettre*. The encyclopaedic and labyrinthine feature of Toth's work is sweeping from mathematics to visual arts, from philosophy to literature, from history to logic, while it is at the same time thoroughly imbued with an unmistakable existentialism specific for that time. It is both a very historical and a-historical book, whose methodology, although apparently so analytic, is actually employed to achieve a "surrealistic science" effect that verges on literature. As in the cases of the other selected thinkers, the work of Imre Toth is particularised by the use of a philosophical framework (hypotheses, problems, inquiries, arguments) to achieve ultimately an irreducibly literary effect of innovation. His work induces an odd, theoretical enlightenment (suffused with playful obscurity) of the traditional prose having the adventures of the cognitive self as its matter.