

# LexiClone

lexical cloning system



Answering *Factoid* and *Definition* Questions: On Information for an Object.

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**Abstract.** In this article I substantiate my position that a human being is a point of accumulation – that is, an *object*. I then introduce the understanding that ‘becoming better and the best’ is what motivates an *object* to movement (and change and it is the object’s Egoism). In explaining what ‘becoming better and the best’ means I formulate some of the basic principles of the New Mechanics and the Differential Philosophy of Cynicism, as the basis for Differential Linguistics. Then I affirm that an *object* seeks information in order to ‘become better and the best’, and I show that the finding of information is made possible by asking two classes of questions: *factoid* questions and *definition* questions.

‘A new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it’.

Max Planck

In my article *Differential Linguistics at NIST TREC* [10] I affirmed that a human being is a point of accumulation; where, in my view, a point of accumulation and an *object* are the same thing. Therefore, as I have said previously and still say now, a human being is an *object*. Moreover, *objects* are all based on the same first principle.

**Definition 1. First Principle - Reality.** Everything is based on the same first principle<sup>1</sup>, which I call Reality; where Reality is everything that exists, and everything that doesn’t exist<sup>2</sup>.

**Objects and Subjects.** As is well known, the Late Latin word *objectum* was brought into scientific usage so that one could oppose the thinking person (*subjectus*) to everything that doesn’t think [1 [Object, Subject]] But I’ve come to the conclusion that this opposition is erroneous [12, 13]. In fact, the result of a *subject’s* thinking can be measured just as exactly as the result of an *object’s* fall from a certain height onto the surface of the Earth – by measuring the *subject’s* acceleration. And if

- the result of the *subject’s* thinking
- and the result of an *object’s* fall

can be measured in the same way, then the question of the contrast between *object* and *subject* is reduced to the question of the difference in what motivates them to accelerate – in the reason for the acceleration. In other words, if the motivation to accelerate for all thinking beings coincides with the motivation to accelerated movement for all unthinking beings, then there is no difference between a *subject* and an *object*. In that case, *subjects* can be called *objects* and vice versa – *objects* can be called *subjects*. (I’ve nevertheless decided to call them all *objects*, because I’m attempting to turn inexact sciences into exact sciences and am thus inclined to follow the traditions of the exact ones. And in the exact sciences preference has historically been given to use of the term ‘*object*’.)

**Movement.** I know that a part of Reality moves and changes; where I understand movement and change to be the same thing. Based on this premise I formulate the following axiom:

**Axiom 1. On Movement.** Anything that could previously have happened to an *object* or could happen to it now or in the future constitutes its movement.

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**Acknowledgement.** To Boris Borisovich Geller, with great love and immense respect.

<sup>1</sup> For me the meaning of the term ‘Reality’ is close to the meaning of the term ‘substance’ as understood by Spinoza:

‘*Corollary* I. Existence appertains to the nature of substance.

*Corollary* II. In the nature of things, two or more substances may not be granted the same nature of attribute.’ [25].

<sup>2</sup> In other words, a unicorn and the delirious fantasies of a mentally ill person are just as much Reality as the star called the Sun and the city of Rome.

**Definition 2. The Characteristic of an *Object's* Movement.** The characteristic of an *object's* movement is its acceleration as a quantity, characterizing the speed of change according to numerical value and to direction, in time, of an *object*; where an object is a set<sup>3</sup> of minimally possible portions of Reality. [2 [Acceleration]]

In line with tradition, I consider the aforementioned 'minimally possible portions of Reality'<sup>4</sup> to be 'light quanta' and 'elements (sets) of an *object*' and refer to them as such, following in this the canons of Relativistic Mechanics, Set Theory and Topology [2 [Set Theory, Topology; 3 [Quantum Mechanics]].

**Definition 3. A Minimally Possible Portion of Reality.** I suppose a minimally possible portion of Reality to exist both in time and outside time.

What is more:

- a minimally possible portion of Reality in a state of rest exists outside time;
- a minimally possible portion of Reality in a state of accelerated movement exists in time.

A minimally possible portion of Reality is to be either acquired or lost by an *object*. That is, in speaking of the movement of minimally possible portions of Reality I am speaking of the non-linear character of the process of acquiring or losing that minimal portion – of the character of this process falling under the description of a harmonic function. This speculation is based on practical observation of *objects*.

**Definition 4. The Universe.** That part of Reality which exists in time I call 'the Universe'.

Consequently, the Universe consists of *objects*.

**Definition 5. Non-Existent Nothing.** That part of Reality which exists outside time I call 'Nothing'<sup>5</sup>.

Nothing consists of nothing.

**The New Mechanics.** I cannot continue to demonstrate the thesis that a human person is an *object* without a preliminary formulation of the principles of the New Mechanics. Why a New Mechanics?

I know that in the course of the last three hundred years *objects* and their movements and acceleration have been described exactly (and are so described at present) according to a generally accepted system of Mechanics<sup>6</sup>. But that Mechanics is incapable of explaining the motivation of a pedestrian who, midway from point A to his original destination at point B, suddenly changes his mind and goes to point C. This incapacity obviously comes from the fact that the generally accepted Mechanics is forced to divide the Universe into *subjects* and *objects*. My New Mechanics, on the other hand, offers maximally exact explanations for the motivations of any movement by any *object*, thus avoiding the separation of the Universe into *subjects* and *objects*.

**1. Philosophy for New Mechanics: Egocentric System of Coordinates.** In choosing a System of Coordinates for the New Mechanics I have found an obvious need to reject that of Descartes<sup>7</sup>, adopting instead of it an Egocentric System of Coordinates derived from the speculations of G.Berkeley<sup>8</sup>: Reality exists only as long as 'I' exist as the centre of the Universe. And, consequently, in the event of the disappearance of my 'I' Reality also ceases to exist.

Having adopted the concept of Egocentrism into the New Mechanics, I decided that changes in the movement of 'other' *objects* of Reality [17;19;20;21;22;26] can be observed as changes in the number of 'my' elements, as that of a set.

**2. Geometry for New Mechanics.** My preference for the Egocentric System of Coordinates indicates my conscious and simultaneous choice of Topology and Theory of Sets as the divisions of mathematics to be used in the New Mechanics. Observing the changes in the Universe from the position of Egocentrism

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<sup>3</sup> A set is a collection, an aggregate, a gathering of certain objects, referred to as its elements, which all display some characteristics in common [2 [Set]].

<sup>4</sup> From a philosophical point of view the minimally possible portions of Reality can and should be equated with the *apeiron* of the ancient Greeks – 'The *apeiron*, from which the elements [are formed]...' Anaximander of Miletus. 610-656 B.C.

<sup>5</sup> In this case I appeal to Hegel's definition of 'Nothing': '...pure being is the *pure abstraction*, and hence it is the *absolutely negative*, which when taken immediately, is equal *nothing*. From this... a definition of the Absolute followed, that it is *nothing*... Hence, the truth of being and *nothing* alike is the *unity* of both of them; this unity is *becoming*.' [16]

<sup>6</sup> By generally accepted Mechanics I mean Newtonian and Relativistic Mechanics [3 [Newton's Laws of Mechanics; Relativistic Quantum Mechanics]].

<sup>7</sup> Descartes' System of Coordinates is a rectilinear system of coordinates in Euclidean space [2 [Descartes' System of Coordinates]].

<sup>8</sup> Berkeley's philosophy is currently called 'Subjective Idealism'. [1 [Berkeley]]

means that Geometry has no place in the New Mechanics, since neither Topology nor Set Theory recognize ‘distance between’<sup>9</sup> as a measure, but only a quantitative measure termed ‘power of set’<sup>10</sup>. For example, when my traveler has arrived at point C I say: this pedestrian has lost (or acquired) N minimally possible portions of Reality and has thus changed the power of the set he represented when he left point A to go to point B but turned midway to go to point C instead.

**3. Mechanicism and UltraRelativism for New Mechanics.** My New Mechanics is strictly mechanistic in the sense that all changes in the Universe are caused by either the acquisition or the loss of minimally possible portions of Reality. The New Mechanics is also *ultra*Relativistic; where *ultra*Relativism means a ubiquitous emphasis on the constant changeability of Reality [1 [Mechanicism; Relativism]].

**Definition 6. Fact.** What one calls and considers to be a fact is a change in the acceleration of the movement of an *object*, fixed<sup>11</sup> as a change in the power of the set of its elements, within a finite interval of time.

In creating the New Mechanics I also decided that both the observed *object* of a given fact and its observer always change the power of the set of their elements as a result of the observation [6;7;8]; and that it is precisely the acceleration of the movement that leads to the change in the power of the *object*’s set.

**Definition 7. Observation and Interaction.** The elements of an observer’s set are either included in or excluded from the set of the elements of what is observed. Such a change in the power of the observer and the observed is called ‘interaction’.

This means that such

- external characteristics of an *object* as colour, smell, dimensions, etc.
- as well as such internal characteristics as mass (weight)

can be observed only as the result of interaction.

**Definition 8. Time.** Time is a parameter [11] – a quantity, the value of which serves to distinguish the power of the sets of observer and observed.

The accelerated movement of an *object* can be observed in time because such movement can be broken down into a multiplicity of unique<sup>12</sup> intervals, which are distinguishable in so far as in each one of them the observing and the observed *object* have powers of sets distinguishable from those that relate to intervals of time directly preceding or directly following them.

It is impossible to describe what is observed in a state of rest in time – in that case, the power of the set of what is observed is the same for any two intervals of time.

I’ve also come to the conclusion that uniform movement – that is, unaccelerated movement – cannot be observed because all observation is interaction. And interaction is itself an adoption of acceleration, which indicates a passage from uniform to accelerated movement.

**Probability.** As far as I know, all the exact sciences without exception use probability when they describe regularities in the behaviour of an *object*. Indeed, to model a situation where certain events involving certain *objects* occur exactly as they occurred previously is, in practical terms, impossible. [2 [Probability Theory; Probability]]. The New Mechanics is therefore a probability theory:

**Definition 9. Probability.** I take probability to be a numerical, statistical characteristic of the possibility of occurrence of certain specific events for similar *objects* in certain specific circumstances object to being repeated an unlimited number of times.

**Philosophy. The Pythagoreans.** I can and must be considered a continuator of the numerological tradition of the Pythagoreans<sup>13</sup> in the sense that I, like them, am inclined to numerological mysticism; where I understand the numerological mysticism of the Pythagoreans to be the reduction of *objects* to points and

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<sup>9</sup> Distance is a geometrical understanding, the content of which depends on the objects for which it is defined [2 [Distance]].

<sup>10</sup> The power of a set is an understanding, generalized from the set’s arbitrary rules, of the ‘number of elements’ [2 [Set Theory]].

<sup>11</sup> The Merriam-Webster Online Dictionary says that the word ‘fix’ means, among other things, ‘to make firm, stable, or stationary.’

<sup>12</sup> The Merriam-Webster Online Dictionary affirms that the term ‘unique’ implies in particular ‘being the only one’. But I would like to point out that this affirmation – ‘being the only one’ – has a very specialized meaning in Philosophy. And the Merriam-Webster writers either don’t know it, or ignore it.

<sup>13</sup> I have in mind primarily the pre-Platonic ‘esoterics’, the so-called ‘mathematicists’: Philolaus, in part Speusippus, Arkhetas of Tarentum. In general allusions to the Pythagoreans can be pointed out in the works of Aristotle [1, [Pythagoras, the Pythagoreans]; 4].

figures, and then to numbers. (Explaining the nature of numbers and figures is beyond the scope of this article.)

**Form and Content of Objects.** I agree with Aristotle’s observation: ‘by the matter I mean... the bronze, by the shape the plan of its form, and by the compound of these the statue.’ [4 [1029<sup>α</sup>.5]]. This means that

- that I consider the content of an *object* to be a set of minimally possible portions of Reality in a state of accelerated movement
- the overwhelming majority of which (within the bounds of reasonable statistical error) are moving in the same direction
- with practically the same (within the bounds of acceptable statistical error) rate of acceleration
- forming a certain three-dimensional volume; I call this volume the form of the *object*.

In other words, an *object* is, for me, what another *object* receives as a set of minimal portions of Reality, in time.

In the same way, a thrown stone remains the *object* of the one who threw it as long and in so far as the stone moves with the same rate of acceleration and in the same direction as the overwhelming majority of the minimal portions of Reality constituting the *object* that threw the stone.

**The Three-Dimensionality of Form.** I am unaware of any *object* in the Universe that is not three-dimensional. Therefore I affirm that the form of *objects* is always three-dimensional<sup>14</sup>. (A more detailed examination of the problem of the dimensions of form is beyond the scope of this article.)

**Mass (Weight) as Content.** I consider the concept of mass (weight) in traditional Mechanics to correspond in meaning to an *object*’s content, since mass (as well as weight) is an internal characteristic of an *object* of the Universe.

**Definition 10. Density.** The relation of form to content and content to form for *objects* of the Universe is considered to be a qualitative measure. That measure is called ‘Density’.

**Definition 11. Point of Accumulation.** A ‘point of accumulation’<sup>15</sup> is an object such that in any part of its neighborhood<sup>16</sup>

- there is always at least one minimal portion of Reality coming into the composition of the given *object* that is moving with almost the same rate of acceleration and in almost the same direction;
- or there exists a set of minimal portions of Reality coming into the composition of the given *object* that is moving with almost the same rate of acceleration and in almost the same direction.

**Definition 12. Uniqueness.** Uniqueness is a statistical quantity: an *object*, as a point of accumulation, is unique within certain bounds of probability.

**Definition 13. Material Point.** I call a material point a point of accumulation which has only content.

But in so far as all *objects* of the Universe have form and content, material points don’t exist in the Universe. I call the density of material points the ‘Constant Density P’

$$P = \frac{m_1}{l_1} = \frac{l_2}{m_2} ,$$

where P is the Constant Density,

where  $m_1$  and  $m_2$  are respectively the content of two material points,

where  $l_1$  and  $l_2$  are respectively the forms of two material points.

**Definition 14. The Continuously Changing Density of Points of Accumulation.** I call the density of points of accumulation the ‘Continuously Changing Densities P’ and P’ ‘:

$$P' = \frac{m_1}{l_1 + dl} \quad \text{and} \quad \frac{l_2}{m_2 + dm}$$

where P’ and P’ are the Continuously Changing Densities of two unique points of accumulation,

where  $m_1$  and  $m_2$  are respectively the content of two unique points of accumulation,

<sup>14</sup> A light quantum isn’t an *object* – what kind of form can a portion have?

<sup>15</sup> A point of accumulation is the boundary point of the set  $M$  – a point  $x$  of the topological space  $X \supset M$ , any neighborhood of which contains an infinite number of points of the set  $M$ ; where the environs, neighborhoods of point  $x$  in the topological space  $X$  is the set  $U \subset X$ , for which  $x$  is an internal point. In other words, the neighborhoods is a set which contains an open set containing  $x$ . [2 {Point of Accumulation, Environs, Topology}]

<sup>16</sup> A neighborhood is a set which contains an open set containing the point  $x$ . [2 [Environment]]

where  $l_1$  and  $l_2$  are respectively the forms of two unique points of accumulation,

where  $dm$  (magnetic properties) and  $dl$  (electric properties) are the increase in content and form of two unique points of accumulation by comparison with the Constant Density of a material point with the same (constant) content  $P$ ;

I also call  $dm$  and  $dl$  the ‘defects’ of the points of accumulation.

**Definition 15. Better.** How much ‘better’ a point of accumulation has become is measured by how small is the defect  $dm$  and  $dl$  of the given point of accumulation.

**Definition 16. The Best.** The complete absence of defects in an *object* is the best<sup>17</sup>.

If a pedestrian begins moving from point A to point B and suddenly turns towards point C, he does it in an effort to lessen or not augment his defect, and thus to become better and, in the end, the best. This clear recognition of a motive for the spontaneous change in the movement of an object constitutes the cardinal distinction between the New Mechanics and generally accepted Mechanics (with the former succeeding the latter, by the logic of evolution).

**The One Law of Nature Presented as a Formula.** The One Law of Nature for points of accumulation, presented as a formula, looks like this:

$$\frac{m_1}{l_1 + dl} * tr \left( \frac{dl}{dt} \right) * \frac{m_2}{l_2 + dl} * tr' \left( \frac{dl}{dt} \right) * d \left( \frac{L}{M} \right) - F = 0;$$

or

$$\frac{l_1}{m_1 + dm} * tr \left( \frac{dm}{dt} \right) * \frac{l_2}{m_2 + dm} * tr' \left( \frac{dm}{dt} \right) * d \left( \frac{M}{L} \right) - F = 0;$$

where  $m_1/(l_1 + dl)$  or/and  $l_1/(m_1 + dl)$  is the Continuously Changing Density of the first point of accumulation;

where  $m_2/(l_2 + dl)$  or/and  $l_2/(m_2 + dl)$  is the Continuously Changing Density of the second point of accumulation;

where  $tr$  is one of the trigonometric functions - *sec*, *sin*, *cosec* and *cos*. The presence of these functions in the Law of Nature is made conditional upon the non-linear character of the process of acquiring or losing light quanta – the process is continuousness itself;

where  $dt$  is a closed interval of Time;

where  $d(M/L)$  is the Continuously Changing Constant, although in Newtonian Mechanics it was already named the Gravitational Constant  $G$ . This constant expresses the relation of the number of all minimally possible portions of Reality in the Universe to their total number. (The problem of the closedness as the Wholeness of Reality isn’t dealt within this article.)

where [\*] is the sign of multiplication: it appears that the force of the interaction between two *objects* striving for unity is a product. (Although, from the point of view of Topology and Set Theory, the use of multiplication isn’t entirely correct: as is well known, Topology and Set Theory don’t recognize the traditional signs of arithmetical operations. But so far I don’t know what sign should be used in this formula instead of the sign of multiplication – Differential Topology must be created as soon as possible!;

where  $F$  is the force of the striving of two *objects* to unite or to separate in order to lessen their defect;

where  $\theta$  is the state of the end and the beginning of Reality.

**Constant Continuously Changing Density.** There also exist a certain intermediary state, which I call the ‘Constant Continuously Changing Density’ of a point of accumulation;

$$P' = \frac{m_1}{l_1 + dl} = const \text{ and } P'' = \frac{l_2}{m_2 + dm} = const;$$

where both  $P'$  and  $P'' \neq P$ ,

Obviously, a point of accumulation with a Constant Continuously Changing Density cannot exist, since it presupposes uniform movement<sup>18</sup>.

<sup>17</sup> ‘...for the end should not be just any last thing, but the best.’ [4, [194<sup>α</sup>,30]].

<sup>18</sup> I. Kant called such a state of points of accumulation the state of ‘things-in-themselves’; where a ‘thing-in-itself’ is a philosophical term denoting things as they exist by themselves (or ‘in themselves’), as distinct from how they appear to us, in our cognition [1 [Thing-in-Itself]]

**Avogadro Number.** I affirm that, for *objects*, the so-called Avogadro number defines

- such values of the Continuously Changing Densities  $P'$  and  $P'$  of points of accumulation
- that are maximally close to the value of the Constant Density  $P$  of material points with the same contents as those points of accumulation
- but leaves the points of accumulation with the possibility of accelerating their movement, and thus of augmenting their content or their form.

In other words: a pedestrian is going somewhere because he wants his Continuously Changing Density to be maximally close or equal to the even Constant Density of a material point (with the same content as the pedestrian) at the expense of maintaining his defect unchanged. Or his Continuously Changing Density equal to null.

**Definition 17. Continuousness of Acceleration.** Acceleration is continuous – within any infinitesimally small intervals of time the power of the set of the elements of an *object* changes to the extent that the *object* always, continuously acquires or loses light quanta.

**The Function of the Universe.** The Universe is a function to the extent that there are given two sets:

- the set of minimal portions of Reality  $E$ ,
- and the set of minimal portions of Reality united in an *object*  $E'$ ,
- and because an *object* of the Universe strives to become better and/or the best;
- where to every element  $x \in E$  corresponds an element  $y \in E'$ , represented as  $y = f(x)$

then one can say that the function of the Universe is set as  $y = f(x)$ ,  $x \in E$  and  $y \in E'$ .

**Differential Analysis.** The passage of *objects* into a new quality can and must be considered the attainment of the function of their Limit<sup>19</sup> [2 [Limit]]. And it means that the Universe is a continuous and differentiable function<sup>20</sup>.

Now, having theoretically grounded – in an ontological key<sup>21</sup> – the initial, basic notions

- that all thinking things and all unthinking things are *objects* of the continuous and differentiable function of the Universe
- that all thinking things and all unthinking things are equally motivated to strive to become better and/or the best

I would like to pass on to the problem of the search for information, having first formulated what information is.

**Definition 18. Information.** Information is something that is needed and sought by an *object* in order to become better and/or the best.

My premise is that information is always required Egoistically<sup>22</sup> by the person seeking it. In other words,

- by projecting the conviction that I share with Arthur Schopenhauer [32] – that any human activity exists only as long as and in so far as that person's Egoism exists
- onto the concrete problem of the *computerized* search for textual information

by creating my program I practically demonstrate that the search for information always supposes the presence of redundant<sup>23</sup> information about the Egoism of the person seeking the information, and equally redundant information about the Egoism of the creators of the texts in which the information is being sought. And I said that Egoism is a person's immanent<sup>24</sup> striving to include in himself (both literally and

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<sup>19</sup> Limit is a mathematical concept, indicating that a certain variable, in the observed process of its change, is approaching a constant value. [2 {Limit}] I believe that the limit is Aristotle's 'the best'. Nothing is the Limit: it's the End and a beginning.

<sup>20</sup> G.Berkeley's Solipsism is the Result, in Hegel's sense.

<sup>21</sup> Ontology is the study of being in and of itself, a division of philosophy that studies the fundamental principles of being [1 [Ontology]].

<sup>22</sup> The word 'Egoism' comes from Latin *ego* – 'I'. [1 {Egoism}]

<sup>23</sup> Redundancy is a concept in information theory. The presence of redundancy in the recording of statements from any source of information manifests as the possibility of recording those statements in a (on average) more concise way, using the same symbols (that is, exchanging one code for another that uses the same alphabet). [2 {Redundancy}]

<sup>24</sup> 'Immanent' (from Latin *immanens* – abiding in something, characteristic of something) is a concept referring to some characteristic (regularity) internally present in some object, event, or process. [1 {Immanently}]

figuratively) everything that is outside himself, in order to become better/best; where Egoism I consider to be the most vivid and splendid manifestation, sign of the One Law of Nature.

**The Differential Philosophy of Cynicism.** The philosophy of Cynicism, which I have resurrected after millennia of oblivion and recreated, is seen to be a Differential Philosophy: Cynicism takes Reality to be a function with a limit/boundary<sup>25</sup>. According to my redaction of Cynicism there is an inherent distinction between the attributes of a function and those of its limit/boundary. (This conception is quite close to that of G. Leibnitz [18], who separated the attributes of a Monad from those of the Supreme Monad.)

Egoism is the basis of Cynicism, and Cynicism is one of the three pillars on which my Philosophy of Differential Cynicism rests – the other two being Stoicism and Cyrenaism.

I. In my article *Differential Linguistics at NIST TREC* I said that the founding fathers of Cynicism are Ecclesiastes and Jeremiah. Indeed, these Old Testament philosophers supposed

- that there exists only one limit point, and that all people are subject to an immanent striving towards it
- and that attaining this limit implies the impossibility of continuing to describe that which has become the limit by the same terms used to describe that which hasn't yet become it [4].

II. From Stoicism my Differential Cynicism has derived its Cosmology<sup>26</sup> and its Ethics<sup>27</sup>:

- the Universe in Differential Cynicism is presented as a finite manifestation existing as *something* and striving to organize its parts into an expediently placed Nothing;
- in reality, in observations and sensations, there exists only *something*, which changes in time;
- there exists an unchanging Nothing, in eternity;
- there exist two beginnings – something and Nothing;
- the development of the Universe takes place cyclically – from Nothing to Nothing;
- an individual's relation to the Universe, to everything and to other individuals (that is, an individual's Ethics) depends solely on himself, and is defined solely by himself [1 {Stoicism}, 4,9,23,24,29,31].

III. Cyrenaism has influenced the formation of the Aesthetics<sup>28</sup> of Differential Cynicism:

- no thing is objectively just or beautiful, since that is defined by means of generally accepted concepts,
- happiness is impossible
- and as a consequence one must independently choose the justice and beauty that is statistically most appropriate to one's pursuit of happiness, which is itself unattainable. [1 {Cyrenian school} 4,9]. But one always seeks and must look for objective justice and beauty as long as one is – otherwise one is not<sup>29</sup>.

**Berkeleyan Semantics.** As is well known, G.Berkeley's philosophy is based on the affirmation that *esse est percipi*, that is, to be is to be perceived (or to perceive). It is also generally accepted that, taken to the limit, this Berkeleyan principle leads to solipsism, for which the thinking subject is the only indubitable reality, and everything else exists only in the individual's consciousness [1 {Berkeley, Solipsism}, 3].

As a Cynic and zealous, passionate adept of Differential Philosophy I say that the single and true meaning of a word exists only for – and can only be found by – an individual who has become Nothing. But since, according to the theory of Differential Cynicism, there are no such individuals in the Universe, no word, consequently, has or can have the only true meaning<sup>30</sup>! To search only for the one, generally accepted meanings of words is, therefore, a complete waste of time. (Plato demonstrated this millennia

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<sup>25</sup> One of the founding fathers of Cynicism – whom I have decided to count as such – Jeremiah, said: 'For My people have committed two evils. They have forsaken Me, the fountain of living waters, to hew for themselves cisterns, broken cisterns, that can hold no water' [Bible, Jeremiah, Chapter 2&13]. This statement can be counted as one of the first recognitions of the Differential nature of Reality in *almost*-Western and *pre*-scientific thought. (Although the rest of Jeremiah's text gives us reason to suspect that this passage is either a borrowing or a later interpolation.)

<sup>26</sup> Cosmology is a domain of science which studies the Universe as a whole and cosmic systems as parts of that whole. [1 {Cosmology}]

<sup>27</sup> The core of Cynical Ethics lies in the Cynical appraisal of what will happen with one if something is included into the composition of one's self. [7]

<sup>28</sup> Cynical Aesthetics is the Cynical analysis of how something can be (practically) included in one's self – the active mechanics of such a process. [7]

<sup>29</sup> For we are saved by hope: but hope that is seen is not hope – for what a man seeth, why doth he yet hope for? [27 {Paul, 'To the Romans', 8&24}]

<sup>30</sup> 'For we know in part and we prophesy in part. But when that which is perfect has come, then that which is in part will be done away.' [27 {Paul, I to Corinthians, 9&10}]

ago). And for this reason the Berkeleyan Semantics I have elaborated is based on an awareness that the meaning of a word is a probabilistic quantity.

Consequently, I use the Compatibility instrument [14], which is aimed at finding probabilistic information when seeking information:

$$\text{Compatibility} = \left( \frac{\text{Sum} \left( \text{Weight-of-the-same-predicative-definition-User} * \text{Weight-of-the-same-predicative-definition-Text} \right)}{\text{sqrt} \left( \text{Sum} \left( \text{Weight-of-each-predicative-definition-User}^2 \right) * \text{Sum} \left( \text{Weight-of-each-predicative-definition-Text}^2 \right) \right)} \right) * 100$$

where *weights* are the frequency with which predicative definitions[14] are repeated in sentences, paragraphs, and texts.

**Differential Linguistics.** Information does exist in the form of words – it’s an Axiom. I have previously adduced certain rules for the organization of such information in texts, in my article *Differential Linguistics at NIST TREC* [10]. In that article I affirmed that a text’s paragraphs are the second derivatives of a being used by the text’s author function of Reality description<sup>31</sup>. So, searching for information one literally ‘integrates’ all a text’s paragraphs’ sentences keeping, saving in one’s memory the text’s context as that a sum of its paragraphs’ contexts; where these paragraphs’ contexts are ‘summaries’ of the most frequently met into paragraphs predicative definitions and distilled from these definitions nouns (names) related with other the text’s paragraphs’ contexts. Later this sum allows one to select only those predicative definitions (from their indeed gigantic quantity) that are meaningful, significant – in the Berkeleyan semantics’ sense – for the understanding of the special meanings of words<sup>32</sup>.

**The Ontological<sup>33</sup> Justification of Differential Linguistics.** Some *objects* (humans, for instance) possess languages (many of languages) as instruments of/for interactions (communications I understand to be interactions). It’s an Axiom. Therefore, if the stated before theories of New Mechanics and Philosophy of Cynicism – as the initial premises for my Differential Linguistics – are valid the languages should have a very palpable, tangible trace of the One Law. And I supposed that the immanent to all, without an omission, languages Grammars could and should somehow clearly demonstrate that Law! Indeed, contemplating the idea that the Grammars are the sets of rules 1) how to compose predicative definitions into paragraphs’ sentences and 2) supervise time I decided to get rid, abstract of relations between a text’s *objects* and time extracting and accumulating all possible predicative definitions from each the text’s paragraphs’ sentence. As a result I got lists of predicative definitions (which the lists I decided to call ‘summaries of predicative definitions’ [10,14]). The fact that these summaries exist and are discovered is the Ontological Justification of Differential Linguistics.

**NIST TREC and Questions.** I have concluded that in the process of searching for (textual) information an *object* can pose two kinds of questions. And it appears to me that *NIST TREC* has come to the same conclusion, calling the two classes of questions ‘factoid’ and ‘definition’ questions; where

- the name ‘factoid’ appears to have been given by *NIST TREC* to one class of questions as a noun derived from the word ‘fact’. Indeed, the Merriam-Webster Online Dictionary does indeed provide the following definition of the word ‘factoid’: ‘an invented fact believed to be true because of its appearance in print.’ The same source also affirms that the word ‘fact’ can be understood to mean ‘a piece of information presented as having objective reality.’ This means that an answer to ‘factoid’ question is information about Reality already not in time – that is, information about Nothing;
- the same Merriam-Webster Online Dictionary indicates that the word ‘definition’ can, among other things, mean ‘the action or the power of describing, explaining, or making definite and clear.’ Therefore I have decided that *NIST TREC* chose to call the second class of questions ‘definition’ questions because such questions ask for definitions how it happens with Reality in continuity.

**The Search for Nothing and Truth.** The answers to factoid questions could always be found somewhere (in already indexed databases, for instance) because they are about Truth that is only one of its kind. Not the same with descriptive questions: they suppose to exist many different answers.

<sup>31</sup> There are many functions that depict the Reality – and an *object* could possess many – and they all are continuous functions: the second and third derivatives of the functions are discrete and they are successions, not rows. [10]

<sup>32</sup> My experience tells that approximately 5% of all predicative definitions constitute a text’s context.

<sup>33</sup> Ontology is the study of being in and of itself, a division of philosophy that studies the fundamental principles of being [1 {Ontology}].

Having created a program that utilizes the principles of Differential Linguistics, I encountered the obvious practical difference between seeking answers to factoid questions and seeking answers to definition questions. For example, searching for answers to definition questions requires infinitely more computer time than doing so for factoid questions. This is because, while a very few predicative definitions – less than 50 – will suffice to provide the answer to a factoid question, the number of predicative definitions necessary to answer a definition question is very high and can run to several tenths of thousands. (A Lexical Clone<sup>34</sup> for answering a definition question is created the same way as for the search for the answer to a factoid question: it is created on the basis of cross-comparisons of 5 to 600 texts' paragraphs; texts being already indexed as relevant. It takes 1-20 and much more – up to 200 – minutes to create a Lexical Clone, which is a few tenths and even hundredths of thousands of predicative definitions (up to 340.000)).

Thus the search for an answer to a definition question in a little less than 2 megabytes of text (I've used F. Dostoevsky's *The Brothers Karamazov* as an example) takes the program from 5 to 25 minutes or more (using a computer with an Athlon 700mGz processor, 128RAM, Windows XP). On the other hand, the search for the answer to a factoid question in the AQUANT collection of texts (3.6 Gig – 1.800 times larger than *The Brothers Karamazov*), using the same computer, requires only from 40 seconds to 20 minutes (having already found an answer in a smaller, already indexed database). This fact forces me to conclude that a brain is a kind of very, very efficient computer that works (among other things) with predicative definitions [28,30]. (This problem isn't dealt within this article.)

**Examples of the Search for Answers to Definition Questions.** When searching for answers to definition questions in *The Brothers Karamazov*<sup>35</sup> I have in particular gotten the following kinds of answers:

Question: *Do you hate me so much? I am leaving you!* Two answers with Compatibility 35.4% *And if I am* and with Compatibility 26.3% *You are a fool, that's what you are*

My next remark: *Why do you insult me? You called me a fool, you said that I am insane! How could you?* Answer with Compatibility 36.6% : *You are a fool, that's what you are*

Question: *Listen, you are a hooligan and ruffian! You insult me for nothing! I challenge you to a duel!*

Answer with Compatibility 19.5%: *Why do you insult me*

Question: *I am attacking you! Are you ready to defend yourself?* Answer with Compatibility 33.3%: *You are a fool, that's what you are*

In order to search for information in *The Brothers Karamazov* my program created a Lexical Clone of F. Dostoevsky, as a description of the text he wrote. I then take the Clone to be F. Dostoevsky himself. Following the principles of Differential Linguistics, the program created summaries of the paragraphs of the text; where each paragraph contains information on how F. Dostoevsky thought it possible to become better by interacting with *objects* in definition questions. And only after that were the most appropriate answers found – through the Compatibility instrument – in the selected paragraphs. (For example, in calling me a fool F. Dostoevsky defined how much acceleration he wanted to acquire.)

I also asked Plato<sup>36</sup> some definition (descriptive) questions:

Question: *You are dead for many years. I took your speeches and analyzed them closely. I understood what you are speaking about and how are you speaking. Now I can reconstruct your soul base on your contemplations.* Answer with Compatibility 31.6% : *And who are you*

Question: *I am your grandson.* Answer with Compatibility 28.9%: *CALLICLES: Yes, I do; but what is the inference*

Question: *I need to get the proof that this is you and you can talk and think. Would you ask me something that I will know that this is you?* Answer with Compatibility 41.4%: *SOCRATES: And what would you consider this to be*

Question: *I know that you like an order. You always were tried to build a system of understanding, the system that helps to understand everything. I know that you looked for somebody that knows. Did you find*

<sup>34</sup> A Lexical Clone is a summary of predicative definitions. I consider such a Clone to contain in itself information about how the Clone's prototype Egoistically proposes to become better [10]. Also, speaking of Egoism, a Clone contains only information that directly characterizes a person's Egoism, without any admixtures. By admixtures I mean, for example, the various commentaries, intersperses, explanations and clarifications unavoidably brought in, for instance, by psychology. And Clones are unproblematically, easily understood by computer.

<sup>35</sup> The whole account of the search is at [http://lexiclone.com/Conversation\\_with\\_Fedor\\_Dostoevsky.html](http://lexiclone.com/Conversation_with_Fedor_Dostoevsky.html)

<sup>36</sup> The whole account of the search is at [http://lexiclone.com/conversation\\_with\\_plato\\_extra.html](http://lexiclone.com/conversation_with_plato_extra.html)

one who knows? Answer with Compatibility 13.4%: *You have been proved to see that which you do not see; and you have already admitted that seeing is knowing, and that not-seeing is not-knowing: I leave you to draw the inference*

Question: *Am I right? Did I understand you?* Answer with Compatibility 14.0%: *CALLICLES: I will do you the favour of saying 'yes'*<sup>37</sup>

**Conclusion.** In the article I gave the Ontological Justification of Differential Linguistics that is based upon New Mechanics and the Philosophy of Cynicism.

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<sup>37</sup> The problem of Artificial Intellect isn't dealt within this article.