# ТЕОРЕТИЧНА І ДИДАКТИЧНА
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# INTRODUCING M-LOGIC: BASIC REMARKS ON KEY CONCEPTS

*Contrariwise, if it was so, it might be;*
*and if it were so, it would be;*
*but as it isn't, it ain't. That's logic.*
*Lewis Carroll*

*У статті розглянуто теоретичні основи міждисциплінарних студій, орієнтованих на виявлення системних універсалій у явищах лінгвального, ментального, фізичного, культурного планів. Комплекс положень, що детермінують вибір дослідницького інструментарію та процедур, розглядається як "міфологічна логіка" (M-logic). M-logic спирається на принцип нео-антропоцентризму, принцип енігматичності поступу систем і нечіткий характер їхніх складників, враховує теорію міфологічно-орієнтованого семіозису, використовує нелінійну каузативну логіку аналізу, інкорпорує аналітичні й синтетичні процедури, розглядає мовний код як квантовий феномен.*

***Ключові слова:*** *система, семіозис, нечітка сутність, квант, синергія*

*В статье рассмотрены теоретические основы междисциплинарных исследований, ориентированных на системные универсалии у явлениях лингвального, ментального, физического, культурного планов. Комплекс положений, детерминирующих выбор исследовательского инструментария и процедур, рассматривается как "мифологическая логика" (M-logic). M-logic опирается на принцип нео-антропоцентризма, принцип энигматичности развития систем и нечеткий характер их компонентов, учитывает теори мифологически ориентированного семиозиса, использует нелинейную каузативную логику анализа, объединяет аналитические и синтетические процедури, рассматривает языковой код як квантовый феномен.*

***Ключевые слова:*** *система, семиозис, нечеткая сущность, квант, синергия*

*The article presents theoretical premises of interdisciplinary studies targeting systemic universalia of lingual, mental, physical, cultural nature. The suggested set of methodological concepts identified as "Mythic logic" (M-logic) employs broad interdisciplinary parallels, encompasses rational-analytic and irrational-synthetic research procedures. The key notions of the suggested approach are neo-anthropocentrism, myth-oriented semiosis theory, fuzzy entities' interpretation, recognizing quantum nature of lingual phenomena, causative non-*

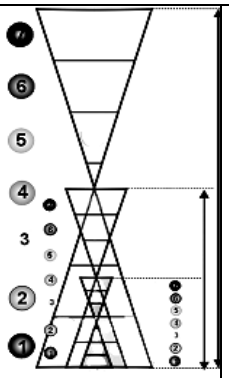
*linear logic, enigmatic (fuzzily synergetic) nature of system's development, inverse nature of systems' fluctuations. The said notions are employed in the interdisciplinary analysis and suggest further elaboration of meta-language, dynamic sets of interpretational coordinates, as well as interdisciplinary experimental research.*

*Key words: system, semiosis, fuzzy entity, quantum, synergy*

As the present-day civilization model, marked by globalization and ethnic cultural diversity's demise, ecological crises, hybrid warfare involving informational confrontations etc. faces a systemic bifurcation of either collapsing or quantum evolution, we realize the necessity of a new vision of lingual phenomena. Language as a system and a cultural code appears to function as both a creative tool and a weapon in the said hybrid warfare (an effective means of verbal manipulations and creating fake reality to say nothing of being used as symbolic secondary myth-simulacra, employed to start and fuel conflicts). Recent research in the fields of linguistics [6; 18] and adjacent areas [3; 4; 5; 31; 32; 33; 35] combined with the interdisciplinary approach towards analyzing systems of diverse etiology [12; 13] allow suggesting a set of guidelines (henceforward referred to as myth-logic, M-logic) that outline universalia-oriented, causative-systemic interdisciplinary reconstructions and interpretations of lingual, cultural, and cognitive phenomena.

**I.** The fundamental premise of M-logic is the principle of neo-anthropocentrism and its expanded version of noo-anthropocentrism [7]. The classical anthropocentric vector of research and world-view modeling as a variation of the "man-the-master" or "man-the-god" myth appears to be largely "technologically oriented" and virtually parasitic in terms of human domination over any other systems on the planet, inevitable exhausting natural resources, and inherently conflicting nature of various interactions involving people. Therefore we speak of the transition towards multi-focal dynamic worldview where HUMANITY is but a link in the network of life while the pragmatics of respective research activities, manufacturing, social processes etc. is subjected to the universal laws of nature (super-system). Due to limitations and associations with the above mentioned negative features we disregard the once prominent notion of "language personality" () and suggest the transition towards the concept of HUMAN as an epistemic constant reflecting its nature as a fractal multi-centered natural system (a micro-cosmos structured and tuned as its macro-counterpart), a subject of energy-information exchange. From the neo-anthropocentric standpoint HUMANS appear as system characterized by the following parameters: type of consciousness (C), dominant cognitive procedures (CP) - hierarchal characteristics; specific use of language as a code (L), as well as social manifestations (SM) determined by individually balanced rational and irrational premises of human nature - synergetic characteristics (Table 1).

**Table 1. The matrix of human's universal parameters**

|  | C | CP, operating: | L, in use: | SM, typical role |
|---|---|---|---|---|
| *Homo Sapiens* | punctual | within discrete domains or their segments | Fragment of the code | a "functional" executor of scripts limited by "common sense" |
| *Homo Ludens* | Linear | within 1 or 2 domains; conceptualization trajectories are limited in variation | A dialect, sub-language | "phatic role-player " in limited scenarios |
| *Homo orientalis* | Plane-like | Within domains pertaining to professional activities; conceptualization is mostly "explicitly" metaphoric / metonymic and oriented towards empirical axperience or traditional "epistemic myth" | Standard variant of a language as a "code by default" | Analytical researcher / instructor-"transmitter" |
| *Homo loquens* | volumetric (socialized) | Within the field of a worldview employing metaphoric / metonymic conceptualization models | Several languages and functional styles (including professional sub-languages) | Effective "lingual personality"-communicator, an "auto-promoter" of oneself and one's activities / products |
| *Homo faber* | torus-like (group-shared) | Hyper-conceptualization employing irrational (sensible) models like allusions and connecting to conceptual spaces of other groups of people | Discourse-creating, free lingual modeling and communicatio n | leader / coordinator for various lingual / ethnic groups |
| *Homo magister* | Volumetric torus-like (social) | Multidimensional conceptualization within dynamic sets of coordinates, employing oxymoron-type models and axiological concepts for choosing the vector of the generated conceptual system's development | Perceiving (feeling, using for analytics and creative purposes) multi-code interactions within the field of semiosphere | Nation-scale leader, creator of doctrines / images of the world / modifier of the code etc. |

| | | | | |
|---|---|---|---|---|
| *Homo Deus* | Stream-like (planetary) | Multi-vectored rational-irrational procedures covering "conceptual inversions" as systems' recurring "rebooting", noospheric and extra-noospheric energy-information interactions etc. | Synthetic rational-irrational verbal modeling of alternative realities | Leader at the world-scale, precedent-setting personality, creator of cultural patterns etc. |

Henceforward any lingual and speech activities are treated off as synergetic developments occurring in poly-dimensional systemic interactions mediated by codes of diverse etiology. While analyzing lingual data we consequently suggest employing multiple interpretational matrices that encompass arguably contrary (polar) inchoative concepts, parametric and categorical allowances, as well as accessing semiosphere as a quantum continuum.

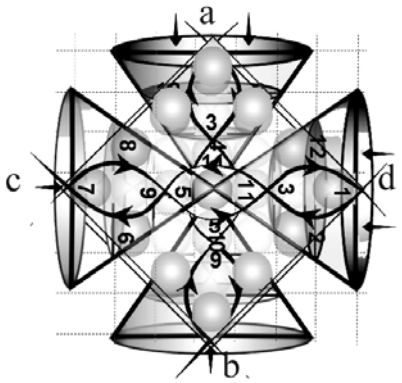
**II.** Various lingual and speech phenomena are considered within the framework of the myth-oriented semiosis theory [6] which therefore appears to be the focal point of M-logic. We regard mythic space (MS) as a container of basic axiomatic operators determining multi-vectored categorization and rationalization of the world or construing alternative worlds. As any attempt or rationalization or deep analysis carried out within one paradigm or under pre-set epistemological conditions inevitably reaches an indemonstrable axiomatic judgment, we speak of irrational "mythic" determinism of verbal designation processes and respective cognitive / conceptualizing procedures. Thus M-logic reflects a fundamental paradox of human cognition: striving to analytically rationalize phenomena, events and their causes humans refer to a database of previous experience that mostly lacks explicit empirical proof [26]. From the standpoint of systems' hierarchical correlation, subsystems of lower level lack both data and instrumental potential to comprehend the patterns and mechanisms of energy-informational exchange run by the super-systems the latter becoming the subjects of faith, myth, axiology, axiomatic assumptions etc. On the other hand, verbally encoded information correlates with once relevant and allegedly real states of affairs thus turning the verbally represented mythic space into a container of the world's "default configuration" as well the container of initial categorizing matrices.

The above mentioned property of verbal signs is related to the structure of their inner form. As the lingual units' inner form is traditionally associated with their etymology we suggest etymological reconstructions of the concepts' names on the basis of the Indo-European stems' polysemantic nature and employing typological and morphonological analogies. As a result we identify elliptical textual-iconic programs of respective objects' basic parameters and default functions in their relation to myth (Cf. the statement by O.F. Losev arguing for every word's being a myth [17]) as a primary matrix of the world. The iconicity of these semantic "code-ons" is understood as the connection between the physical nature of lingual signs' material carriers' (sound-waves with specific parameters)

and denoted objects / phenomena while the former are considered as the substitutes of direct informational modeling practices once (hypothetically) exercised by previous civilizations. Both informational modeling (ritual practices) and lingual signs' impact irradiation employ the mechanism of fractal expansion.

**III.** Although the constituents of MS are traditionally considered as "unreal" and their verbal representations are recognized as "zero-reference" lingual signs we insist that the nature of the objects of reference is not necessarily sensibly perceivable thus connecting the verbally encoded information with priorly acquired experience commonly associated with myth. In this regard we speak of relativity and "fuzzy" nature of both mythic phenomena in their ontology, their mental interpretations and verbal representations [36]. Thus we employ the notion of "fuzzy entity" (FE) to refer to both elements of MS and phenomena inaccessible via standard rigid logic [11]. Sets of EFs' conceptualized features (as well as respective energy-information quanta) form clusters with flexible (dynamic, diffuse, "fuzzy") contours shaped by causative, associative, partitive and locative-transformational attractors: $\Delta a_n$ (ontological features), $\Delta b_n$ (functional features), $\Delta c_n$ (axiological features), $\Delta d_n$ (locative features), where $_n$ - stands for the degree of a feature's manifestation within a changeable range. The range of informational transformations can be defined provided we metaphorically reconsider the formula of current strength I = U / R, where " voltage" U refers to the difference between "semantic potentials" (distance between contrary semantic features encoded in the lingual signs' inner form); "resistance" R is considered as a set of semantic modifiers, elements of lingual and extra-lingual context responsible for profiling a respective concept's structure, inverting it or generating a certain noematic sense. In its turn, "current strength" $I = x_n$ becomes an index of a lingual unit's feature's manifestation degree that results into perlocutive effects. All inner-systemic developments are regarded in multidimensional perspective rather than traditional linear (syntagmatic) sequences of signs and meanings. In particular, we speak of verbal signals' quanta (with their respective mental and electro-chemical correlates) that generate flux-and-fluid noematic senses within dynamic coordinates, pre-set by the super-system (universal laws of nature) as $\Delta a_n :: \Delta b_n$ (hierarchical plane defined by "programs" and "resources" of FEs' existence) and $\Delta c_n :: \Delta d_n$ (synergetic plane constituted by expected FEs' assessments and transformations in physical / mental spaces) (Fig. 1a). FEs' "expected configuration" in fact never appears to be a scaled copy of the super-system's structure. Interactions of people and ethnic (professional, sub-cultural etc.) groups marked by resonance / interference phenomena, generate semantic fields that function as attractors or repellers and modify FEs' configurations (Fig. 1b). In this context the classical idea of a field as a vectored value $\bar{E}(x,y,z,t)$ determined by measured quantitative spatial parameters in a 3-D space transforming in time (t) becomes $\bar{E}$ (Mx,y,p,q,s,t) or $\bar{E}$ (Rx,y,p,q,s,t), where *x* stands for living being / human, *y* - object / artifact, *p* - human's action, *q* - object's action, *s* - space, *t* - time, *M* - operator "mythic", *R* - operator "real" [27], while *x* and *y* demonstrate profiled sets of features $\Delta a_n$, $\Delta b_n$, $\Delta c_n$, $\Delta d_n$. Thus in each segment of the field (MS,

semiosphere etc.) lingual designations of FE highlight contextually-historically relevant quanta of features.

(a) 

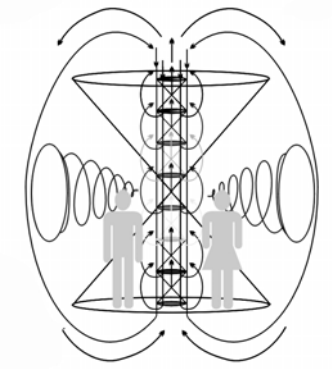

(b) 

Figure 1. Semantic matrix of a "fuzzy entity": (a) - model of a noematic quantum; (b) - noematic quantum as a segment of a field

**IV.** Speaking of the quantum nature of lingually mediated informational fields we employ the following analogies and extrapolations. Ontologically any field appears to be an information carrier while its fluctuations are determined by a collective impact of wave-irradiating subjects. At the cellular level fields are generated by unbalanced chromatin [2]. Likewise, semantic fields are generated by sounds unbalanced in dynamic speech activities or by neural signals of electro-chemical origin. Thus we speak of semantic fields' rather physical, material nature which is responsible for their functioning as dialectic attractors, shapers of cultural patterns and alternative realities.

Registering the wave nature of both lingual code-ons' carriers (sounds) and their inner form we associate the latter with wave-like neural processes pertaining to perception, interpretation and transmitting of information [14, c.248-253]. Our hypothesis is that interpretation of lingual signs with certain parameters of their outer form (sign carrier) requires interpretational tools with similar "tweaks" i.e. genetically coherent higher neural activities employing the mental correlates of etalon signs-interpretants, the latter being similar combinations of amino acids, modes of electric signals passing through neural tissue and the character of the traces left on this tissue by the impulses [14, c.259 - 264]). We draw further analogies regarding the similarities of the sings' outer forms' energetic potential capable of triggering expected biochemical reactions (streaks of reactions) while interpreting both sound and graphical signs. As the cells of living systems emanate energy, we regard the products of semiotic and communicational activities as the source of energy streams that resonate and generate semantic fields. These physically mediated fields we consider the basis of "collective mind", group stereotypes, national worldview etc. In this context we reinforce the idea of semiosphere's binary nature which is acoustically-wave and mentally-field at the same time [11].

Consequently we speak of a lingual sign's energy as a minimum set of features realized via mopho-phonemic clusters as waves with specific amplitude, frequency and strength. A set of this kind capable of modifying a segment of the collective field is hereafter identified as a lingual quantum $\tau^l$. AS lingual quanta allocated in various zones of the informational field are rather variable, quantum parameters of code-ons representing elements of MS (mythic concepts and mythic scenarios) reveal similarities to soliton waves: their structure is dynamic yet more rigid thus allowing their functioning as micro-matrices responsible for quantization of other verbal and conceptual entities [8].

**V.** The priorly discussed quantum nature of lingual and conceptual phenomena leads to remarks on causative yet non-linear logic of informational interactions. Within the M-logic concept time (t) is regarded merely as a conventional marker of objects' spatial (matter) / energetic (quantum) transformations. We also support the concept of informational spaces' stream-like dynamics implying the hyper-allocation of causative factors as well as irrelevance of spaces' temporal segmentation. Thus M-logic allows accessing the entire database of human semiosphere targeting universal patterns of informational exchange and respective lingual codes' parallels. On the other hand, M-logic considers contrary inchoative informational quanta involved in conceptualization / modeling of worlds (conceptual oxymorons like ORDERED CHAOS, LIVING DEAD, and DARK LIGHT etc.) and addresses wave-like semio-genesis as a means and manifestation of cognitive projections of the multitude of possible worlds and realities.

**VI.** All transformations unfolding in spaces / worlds of diverse etiology follow the pattern of open systems' development and occur at bifurcation points. In this respect M-logic considers all developments as enigmatic. Enigmatic phenomena (EP) are determined by implicit connections between systems, fuzzy (vague or hidden) parameters of objects involved in scenarios [9]. Variable and therefore fuzzy, unpredictable contours of expected informational developments caused by irrational (mythic or super-systemic and thus unknown) reasons prevent structures of "future experience" from being included into traditional rigid navigational coordinates within a certain worldview. Therefore we regard an EP as both a marker of a system's entropy and a trigger of dynamic (arguably evolutionary) transformations. Considering the universal laws of similarity (fractal expansion), causality and cyclic development we register enigmatic nature of systems' development vectors in any segment of time-space for this property appears to be super-systemically preset and fractally copied at various levels of existence.

In the context of non-rigid categorization and mythic operators' impacting communication and world-modeling, verbally mediated quantum transitions that involve PEs appear as:

$$\left.\begin{array}{l} \forall \textbf{ (scen n')} \\ \text{IN x (R/M) } \sum a_n b_n c_n d_n \end{array}\right\}$$

*trans*($\Delta\varepsilon$ / $MSa_0b_0c_0d_0$)
OUT
$\Delta x$ (R/M) $\sum a_{n+1}b_{n+1}c_{n+1}d_{n+1}$
**∃ (scen Δn')**
IN x (R/M) $\sum a_?b_?c_?d_?$
*trans* ($\Delta\varepsilon$ / $MSa_0b_0c_0d_0$)
OUT
$\Delta x$ (R/M) $\sum a_{?+1}b_{?+1}c_{?+1}d_{?+1}$

This reads: for any variant of scenario **n'** involving a real or mythic object ***x*** and employing verbalized data on its ontological (a), functional (b), locative-temporal (d) and axiological (c) features revealed to a degree *n*, provided there is a set of causative factors (an impulse, energy $\Delta\varepsilon$) and the influence of mythic basic operators that outline the said object's prototype parameters ($MSa_0b_0c_0d_0$), the scenario results into the object's expected transformation reflected in its parameters' change $a_{n+1}b_{n+1}c_{n+1}d_{n+1}$ there is yet an unpredicted scenario Δ(n'), characterized by fuzzy / unknown data at the "input stage" and an unexpected transformation of the object at the "output stage". If the system undergoes positive adaptive transformation (scen Δ(n') = 1) the following quest-type scenario sequence unfolds: scen n' → scen Δ(n') →scen n'+1, where states of affairs are close to the expected ones.

If the scenario fails due to the lack of data, object's parameters' deterioration or failing to achieve the expected goal, then: scen n' →scen Δ(n') → scen n'∞, i.e. the scenario re-occurs with different input data or: scen n' → scen Δ(n') → scen -n', i.e. the object is annihilated.

As the object ***x*** is not the only "fuzzily parametric" participant of scenarios we exercise the idea of scenarios' virtually unlimited range of variation. The degree of objects' parameters' variation Δ largely depends on characteristics of lingual signs that designate it, primarily on account of their semantics possible multiple interpretations.

**VII.** Except for bifurcations in open systems' development their other fundamental property is inverse successions in fluctuations. Inversions are mostly caused by excessive level of hierarchically diverse unbalanced systems' entropy and their adaptive metamorphoses determined by universal laws of development [1; 20]. M-logic exercises the mythic principle "above is as below" and traces common features in various systems' componential rearrangements targeting primarily re-orientation of semantics and senses as well as respective spaces' transformations. An example of a large-scale culturally relevant inversion is historic migration of MS from the nuclear segment of worldviews to their periphery and back.

We approach inversion as a universal pattern of lingual code's functioning, quantizing information and transformations within verbally construed worlds. Respective semiotic procedures are realized as inverse patterns unfold during mythically determined categorization:

$[SYSa^nb^nc^nd^n] \rightarrow [SYSa^{n\ (inv)}b^{n\ (inv)}c^{n\ (inv)}d^{n\ (inv)}] \rightarrow INV\ [SYSa^nb^nc^nd^n]$ , that means a change of one or several basic parameters of a system to a certain degree. We identify the following typical systemic inversions

1) $[SYSa^nb^nc^nd^n] \rightarrow [SYSa^{-n}b^{-n}c^{-n}d^{-n}] \rightarrow -[SYSa^{n'}b^{n'}c^{n'}d^{n'}]$, which means that one or several system's parameters acquires a contrary value. As a demonstration, consider a correlation of Christian mythology :: alternative / imaginary worldview that reflects a set of super-segmental conceptual "reorientations" triggering transformations at lower levels of respective worlds' structure.

2) $[SYSa^nb^nc^nd^n] \rightarrow [SYS\ A^{n\ (inv)}\ (b^nc^nd^n)] \rightarrow (A^{n'})[SYSa^nb^nc^nd^n]$, which means that one of system's parameters turns into a "dominant profile" that provides specific (ethnic, professional, subcultural etc.) colouring for the whole system.

Therefore, we consider inversion a poly-etiological universal characterizing the functioning of open systems allowing them to "reboot", "return to default settings", "defragment itself" when previous settings become no longer effective and hinder its adaptive development. Being a dynamic configuration update, inversion doe not undermine system's integrity and sustainability, allowing it to adapt, evolve and fulfill required functions. System's inverse adaptive rearrangements often cause transformations of its polar segments: for instance, we witness parallel "de-mythologizing" of simulacra imposed by dominant ideological systems and "re-mythologizing" of present-day culture in the sense of searching for eco-centered patterns of humans' interaction with the world on the basis of reconstructing historically prior cultural experience. Inversion can be regarded as both a manifestation of evolution and a result of invasive manipulative practices.

Thus, M-logic appears to be a set of methodological concepts that aim at expanding the scope of studying and interpreting lingual data. The said approach employs broad interdisciplinary parallels, encompasses rational-analytic and irrational-synthetic research procedures. The key notions of the suggested approach are neo-anthropocentrism, myth-oriented semiosis theory, fuzzy entities' interpretation, recognizing quantum nature of lingual phenomena, causative non-linear logic, enigmatic (fuzzily synergetic) nature of system's development, inverse nature of systems' fluctuations. The said notions are employed in the interdisciplinary analysis and suggest further elaboration of meta-language, dynamic sets of interpretational coordinates, as well as interdisciplinary experimental research.

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