

## KNOWLEDGE AND SPIRITUALITY

### - thinking patterns -

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**Abstract.** The development of the mathematical models that can simulate psycho-physiological structures, led to the more conspicuous emphasizing of the great importance that engineering plays in the psychological research. With such a method, implemented in a technology capable to identify from biophysical data the activity of the cerebral functions, this work brings experimental proofs of the influence of the spiritual factor on the knowledge. Achieving compared determinations, for one hand, by raising the psychological profile using the EDA principles (electrodermal activity), on the other hand, by identification of the psychological relevance in the text structure, the authors demonstrate the existence of a *spiritual level* expressed in transition index, suggesting a new model in knowledge. This model reveals the functional aspects of thinking under the influence of the *spiritual level*, the way in which the clouds of *fractal and constructal patterns* of thinking.

**Keywords:** model, psychology, cerebral functions, spiritual level, cognitive pattern, knowledge ways, fractal, constructal

### 1. Introduction

An experimental approach of the cognitive pattern can be a challenge for the modern techniques and technologies. But the experimental determination of a physical measurement which can be connected to the spiritual activity of the human being seems unlikely. The idea of association of knowledge in its multiple forms to the spirituality should lead us directly to the areas of philosophical – theological issues, where, besides the arguments of the exact sciences, shall play their part the thinking tendencies, the ensemble of beliefs, the dogmatic assertions, etc, all these leading the speech toward abstract debate. But, here, we wanted the direct evaluation of the psychological profile, both of the form of the cognitive pattern and also of the correlation between such and the level of the *spiritual status* found in a physical measurement, that we have conventionally called transition index.

All these have been possible due to an implementation of technological engineering, (ESPE), an expert system of psychological evaluation in course of patenting ([www.biospecter.com](http://www.biospecter.com)), instrument with which most of the experimental

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determinations have been accomplished, determinations based on which this thesis has been presented, namely that the spiritual level has a concrete influence on the way of thinking.

The evaluation criteria used are totally different with regard to the working method, although the algorithm on which they have been shaped, is the same. If, in the first case, the modality of taking over the information can place us in the category of objective methods of investigation of the personality, because it supposes a series of psycho–physiological measurements, in real time, from which the personality profile is being decanted, by using a bio-scanner able to register the galvanic response of the skin to electric stimulus, offering the analysis program a stack of dependent variables, from which, by advanced processing, a psychological profile can be identified, in the second case, the information is excerpted by an advance analysis, from a set of text samples which the subject has elaborated in a more or less recent time. This way, the subject reveals himself/herself in writing, approaching a certain theme, the method of interaction with such subject being an indirect and subjective one.

In both cases, the experiment emphasized the correlation between the transition index understood as *spiritual level*, and the thinking *patterns* explained through the ways of knowledge.

This way, the final diagrams shall reveal the way in which the spiritual level shall be used as a resource of large importance in the human evolution.

## **2. Ways of knowledge, premise of the compatibility of the cognitive pattern**

The consideration from which we start in the building of this demonstration is the one that the composition of the human being keeps a certain logics of the informational – energetic exchange with the reality. This coherence shall be found and in all the cognitive practices. This way, the integral knowledge of the reality can be achieved only compatibilising our psycho – physiological architecture with the reality of the world in all its potential aspects. Therefore, the physical – emotional–mental composition shall offer us the prospective of twelve ways of knowledge. Each of these ways keeps certain particulars throughout which the interior reality can relate to the exterior reality. This way of knowledge shall naturally lead to the systemization during the time of twelve conceptions about the world, each of them keeping the specific of synergic level by which the connexion to reality has been possible.

In order to establish the *cognitive patterns*, we had in view the premise of any knowledge act, on whatever way we should be, is the one of compatibility of the *cognitive pattern* with the matter pattern of the knowledge way. Therefore, the access to a knowledge way can be favoured or, on the contrary, can be strongly

blurred by the form of the individual *pattern*. It can explain why a certain way or other can be so familiar to us, meanwhile, others are almost impenetrable. Essentially, the spectacular compatibilisation shall open actually the access to knowledge, the cognition being the effect of the application of the *cognitive pattern* in the matter pattern of the knowledge way.

In the Fig. 1, from the physical-emotional-mental structure shall be distinguished six main knowledge ways that shall mix on their turn other six intermediary ways. In the same time, in the knowledge plan, on each of these ways, the same number of *cognitive patterns* shall express, patterns which in their basic position (the knowledge way on which they are established) shall use, operationally, as we have shown above, the projection of the actions of the specific elements of that way.

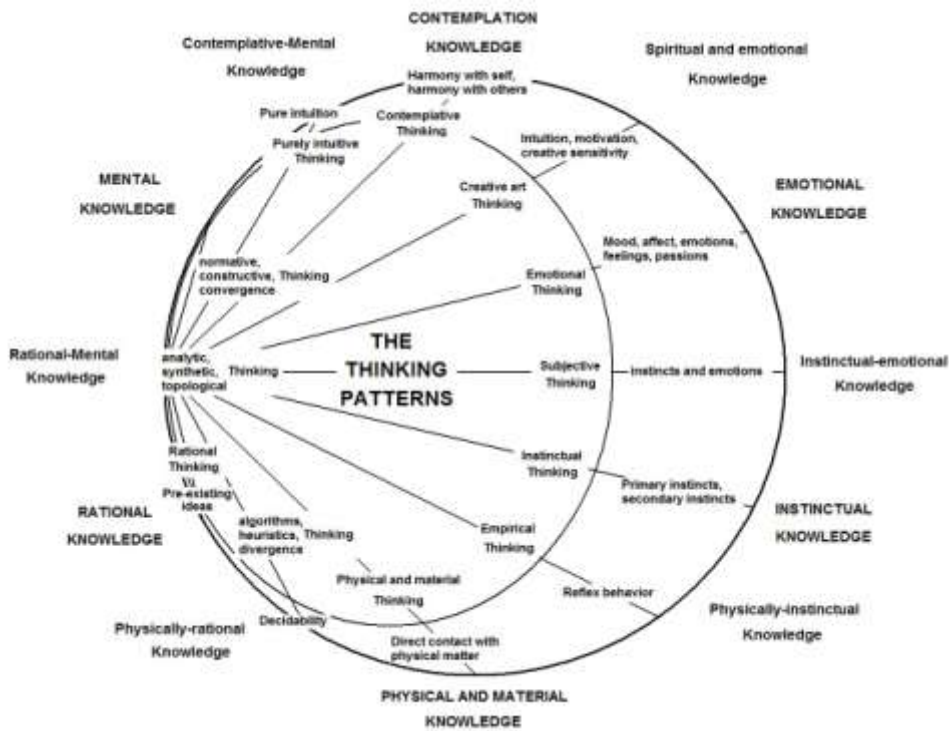


Fig. 1

The twelve knowledge ways determined are: the physical–material knowledge, the contemplative knowledge, the emotional knowledge, the rational knowledge<sup>1</sup>, the mental knowledge, the instinctual knowledge, the rational–

<sup>1</sup> Although in the current language, the expressions *mental* and *rational* can be used with very closed meanings, the rati as "human faculty of thinking, of understanding of meaning and

physical knowledge (mathematic-heuristic), rational-mental knowledge (systematic), contemplative–mental knowledge, spiritual–emotional knowledge (creative-artistic), instinctual–emotional knowledge (subjective), physical–instinctual knowledge (sensorial).

### 3. Thinking, experimental determinations of cognitive *patterns*

In the acceptance that the term of *thinking* as such is not enough clarified from the semantic point of view, it being associated through the philosophy and logics with different forms of the mental activity (operations, reasons, generation of ideas, etc), recently, the thinking is circumscribed to coordinates able to deduce and classify its specific attributes. Briefly it can be synthesised that *the thinking reflects the reality, organises functionally the human being, mentally regulates his/her behaviour, dynamically develops operating as a system.*

Because the thinking act participates in the psychic regulation of the human behaviour, it shall be motivationally involved in specific operations reflected on the contents of thinking. Example (Fig.2.a, b, c, d)

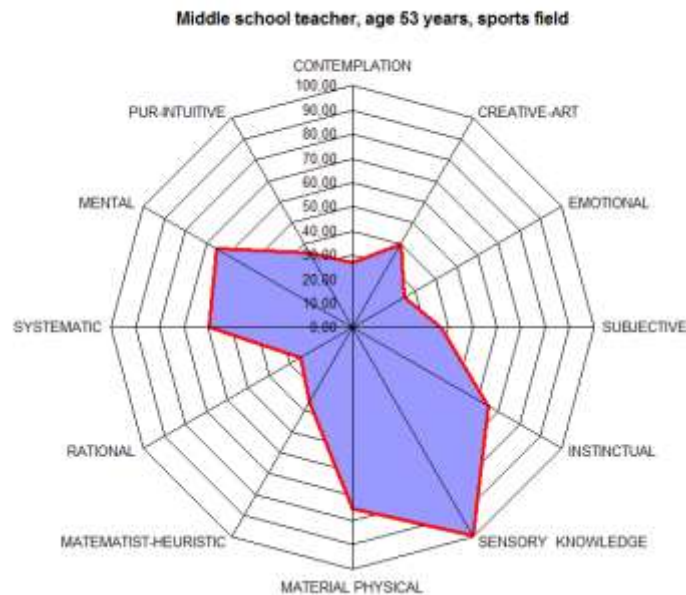


Fig.2. a

relations between phenomena”( [www.webdex.ro](http://www.webdex.ro)) being a mind activity, in the context of this description we shall distinguish between two terms which significances shall be strictly related to the form of cognitive pattern, on the way of considered knowledge.

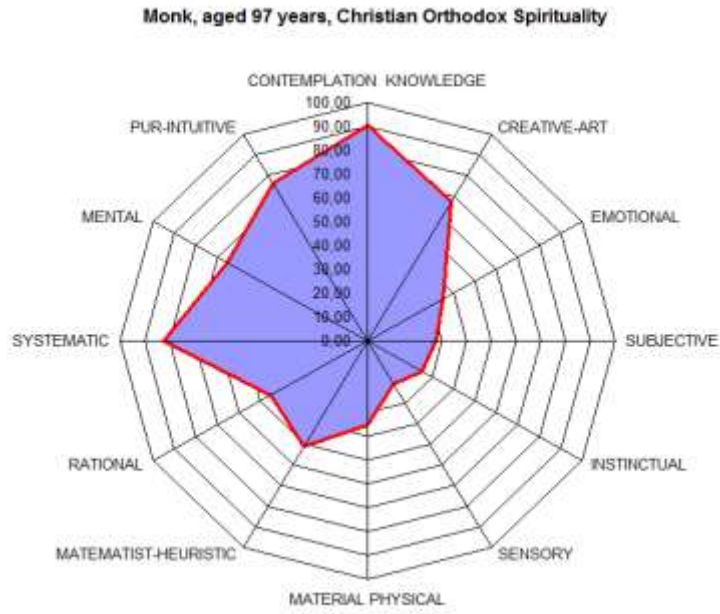


Fig.2. b

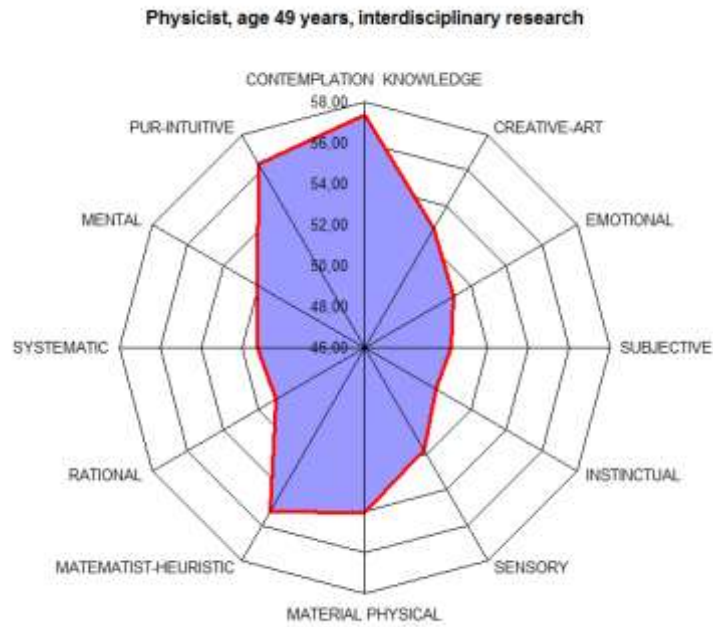


Fig. 2. c

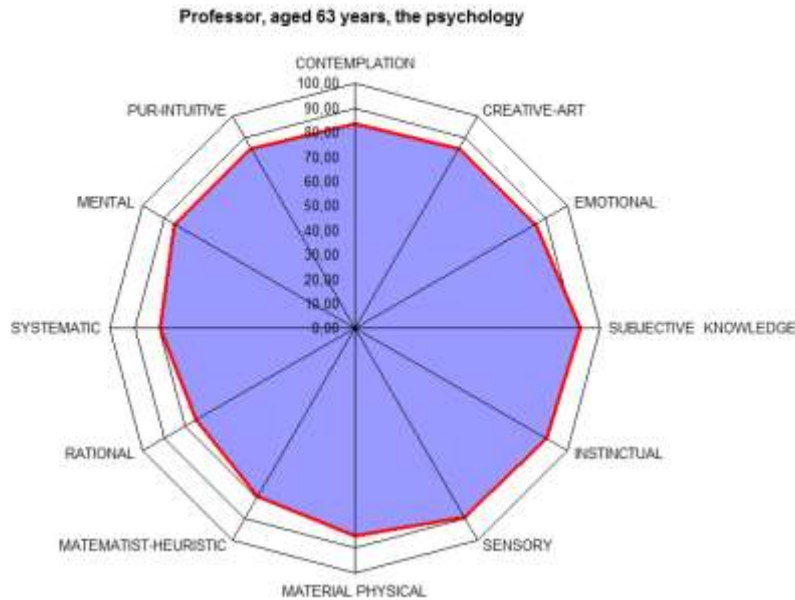


Fig. 2. e

#### 4. Systemic thinking, clouds of patterns in thinking

The identification of elements, properties and relationships shall be achieved by the operational ways *analytical*, *synthetic* and *topological*, characteristic of the systematic thinking; the operator systemic identifier that shall be applied on the criteria of *performance*, *integration* and *adaptation*; the modal operator of transformation, after transformative criteria *-identical*, *negative* and *reciprocal*, and the predictive one by *induction*, *deduction* and *analogy*. The laying of the operational aspects of the above mentioned thinking takes place following for one part the logics of the fragmentation of the reality in view of its comprehension by the act of thinking and on the other hand, recomposing a construct of the parties available. In both cases, during the fragmentation/ recomposing of the reality, the influence of pattern in thinking shall accompany any cognitive process.

**Fractal thinking – clouds of fractal patterns.** Because the fragmentation of reality shall follow certain precise criteria, on several levels, the following model shall use as work instrument, an algebraic<sup>1</sup> fractal. The organisation of the fractal shall take into consideration the elements of influence of the basic *cognitive patterns*, but also the meaning of the operational decomposition of the reality.

<sup>1</sup> Florian Colceag, “Algebraic Fractals - Fractal Varieties”, (2001); “Cellular Automata, Algebraic Fractals”, (2001); <http://austega.com/florin/>

This way we shall have for each fractalisation level, operational sequences related to: 1<sup>st</sup> level – the basic cognitive pattern; 2<sup>nd</sup> level – identifiable predictions: inductive, deductive, analogical; 3<sup>rd</sup> level – transformations: identical, negative, reciprocal; 4<sup>th</sup> level – systems, characterised: performative, integrative, adaptive; 5<sup>th</sup> level – relationships, properties and elements, determined: analytically, synthetically, topologically.

**Constructal thinking – clouds of constructal patterns.** Unlike the fractal model, the measure of recomposing the reality shall take place in the profoundness of four constructal<sup>1</sup> levels achieved on the basic structure of the twelve ways of knowledge emphasised in the Fig. 1. As in the previous case, for each constructal level we shall have the following sequences, where the operators order follows the logics of recomposing starting from the same basic cognitive *pattern*: 1<sup>st</sup> level – the basic cognitive pattern; 2<sup>nd</sup> level – Elements, properties and relationships determined: analytically, synthetically, topologically; 3<sup>rd</sup> level – systems, characterised: performative, integrative, adaptive; 4<sup>th</sup> level – Transformations: identical, negative, reciprocal; 5<sup>th</sup> level – identifiable predictions: inductive, deductive, analogical.

### 5. Level of the spiritual status<sup>2</sup> – influence on the cognitive pattern

In the evaluation of the criteria leading to the determination of the *psychological profile*, an important aspect taken into consideration is the transition index, calibrated on a scale between 0 and 1,000,000 units and correlated to the level of the *spiritual status*.

The final form of the *transition function*  $F_T$  shall contain all the components that contribute to the transition actions and to the integrative response in the operation of *integrative transition*. The values of the function  $F_T$  expressed in transition units represent the level of the *spiritual status*, a reality that can be measured directly with the SEEP technology.

The criteria of evaluation of the influence of the spiritual level on the cognitive patterns, emphasize by experimental determinations, on any knowledge way we should be, that the knowledge is in a closed connection to the spiritual level, certain knowledge ways being practically impossible to approach on an improper spiritual level. A diagram of the cognitive pattern distribution based on the spiritual level is presented in the Fig. 3.

<sup>1</sup> The concept of *constructal* is introduced by Adrian Bejan (1996); Duke University, Durham, North Carolina (S.U.A.); in the context, the term is used with the signification of a process opposite to fractalisation, of identification of the whole.

<sup>2</sup> Dumitru Grigore, "Informational Theology. Normative Aspects of the Sacred in Long-term Development", *Annals Of The Academy Of Romanian Scientists, Series On Philosophy, Psychology And Theology*, Volume 1, Number 2/2009, pag. 49.

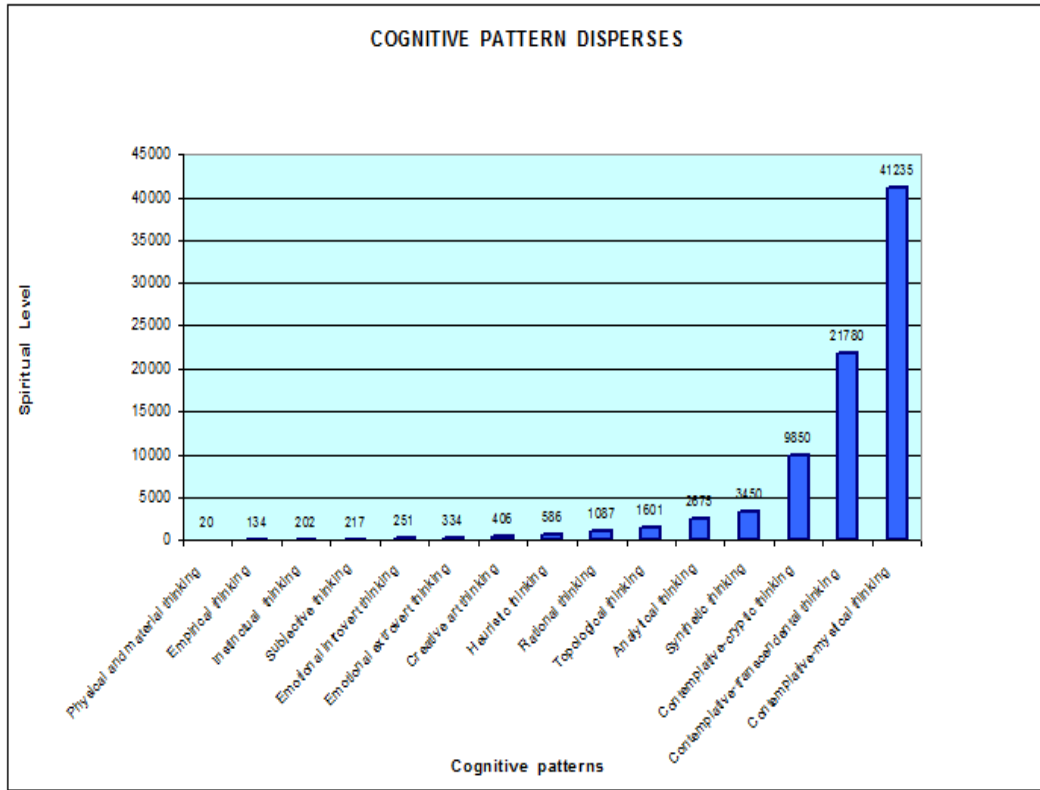


Fig. 3

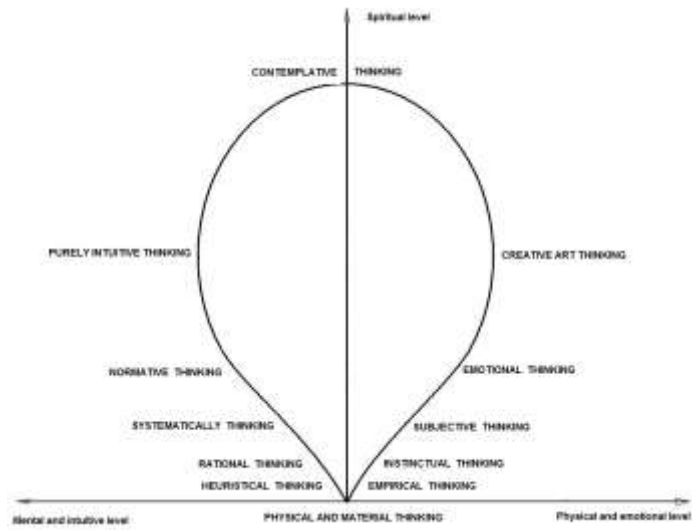


Fig. 4



An analysis of the spiritually normalised cognitive behaviour in the field of physical –emotional, mental –intuitive influence, shall lead to a form of distribution proposed in the Fig. 4, (the "drop" model), in which the dependence on the spiritual level of each knowledge initiative is being suggestively represented.

## 6. Psychological relevance of the text structure

Other confirmation of the influence of the spiritual status on the knowledge can be experimented by the analysis of criteria that identify the psychological profile from the content of a text elaborated by the evaluated person. The working principle has in view the dynamics of the utilisation of words in a given text, such approach manner being atypical in the linguistic territory because it does not operate with a semantic repertoire. This way, the *psychological relevance of the text structure*, as we shall hereinafter call this indicator, shall allow us to easily identify the *text genre* through the physical, emotional and mental contribution contained in its structure and on the ground of the graduality of a certain *spiritual status* of the author that the analysed text can reveal, reflected in a transition index.

Also, the first results related to the old testamentary text, to the canonical text of the New Testament, and also to the texts considered by the Church as non canonical, opened us a new prospective in the their investigation, evaluation and classification based on the criteria that have in view both the emotional – affective mark identifiable in the text and also its transition index. These combined criteria shall set up in an indicator of *emotional –affective level* that the analysed text carries with it. The new perspective transcends the philological approach, purely linguistic or philosophical –theological of the Christian texts on which we have focused our attention, offering besides any favouring of confessional nature, extremely useful touches in the objective analysis of the message that these contain, but especially original aspects of the personality of their authors.

The psychological perspective of the text structure that we propose has in view three criteria that can selectively classify the typology of the analysed text, related to a fourth, that also in the application described at the previous chapters, associated to the level of the *spiritual status* of the author that the analysed text can reveal as transition parameter. These criteria are related to the *personalities of the ego*, manifested in the physical, emotional and mental side. We can talk about the valences of the ego and the emotional mark identifiable in the text and also about the contribution of mental performance in its conception. In the Fig 8, a and b we suggestively represent the classification of the text typologies based on the proposed criteria.

The criteria presented in the Fig. 5, a and b receive, in basis of the scientific aspects of classification of the typology of the texts presented at the beginning of the paragraph, the correspondences in which they are emphasised: the genre of the

text as a result of the criteria modelling and the text types, possibly to be investigated in this model, with the specification that the utilisation fields shall be adapted accordingly to them.

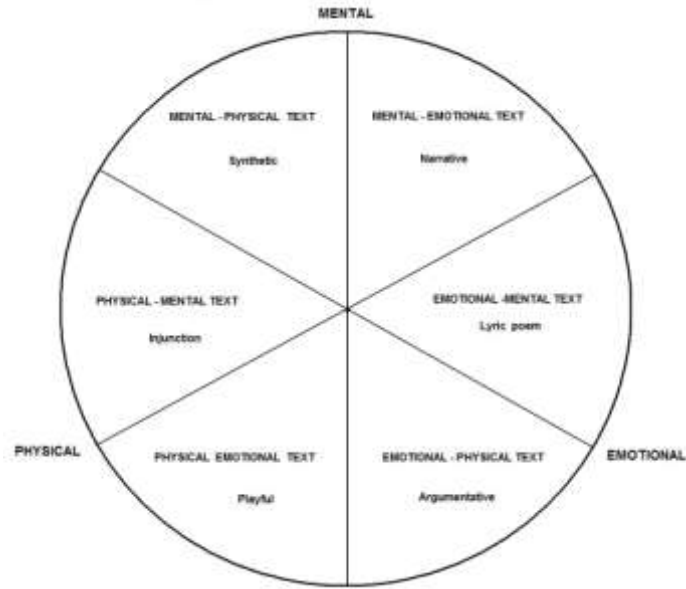


Fig. 5. a

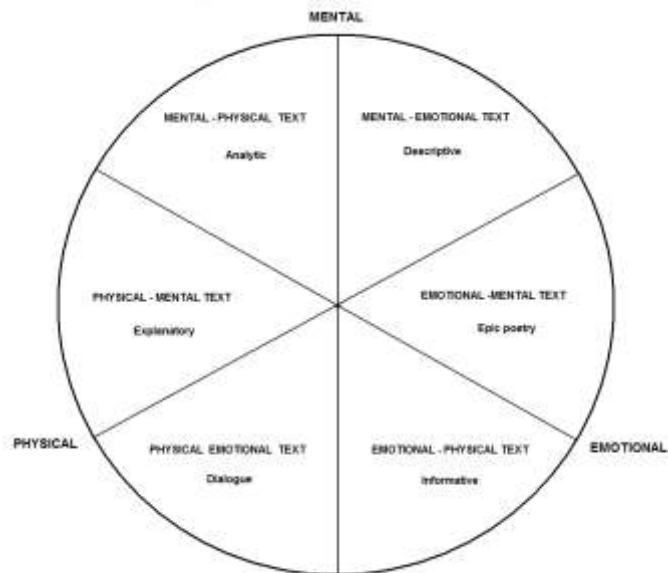


Fig. 5. b

### 7. The level of the spiritual status in the text

Also as in the case of the 5<sup>th</sup> chapter, with the help of the integrative transition we can extract from a personality profile enough elements for an attitude norming in the moral sense. From all the data offered by the transition operation we shall stop on the *transcendence* as attitude of self-improvement, associating to this characteristics a function able to identify the level of the *spiritual status* of the evaluated person. Being integratively correlated to other attitudes derived from the ego's potentialities, respectively the selfishness and altruism, *the transcendence* reflected by the transition function, ( $F_T$ ) is determinant in the qualification of a text. The processing done with the software instrument led us to a certain polarisation of the text categories based on the level of the *spiritual status* expressed in transition index. For relevance we present in the Fig. 6, a. a few examples of religious text for which he have followed the distribution of the *spiritual level*, viewing also its concordance to the quality of canonical or non canonical text. From the diagram presented we can notice that the non canonical texts are being distributed in the first part of the diagram under the level of 12,000 units.

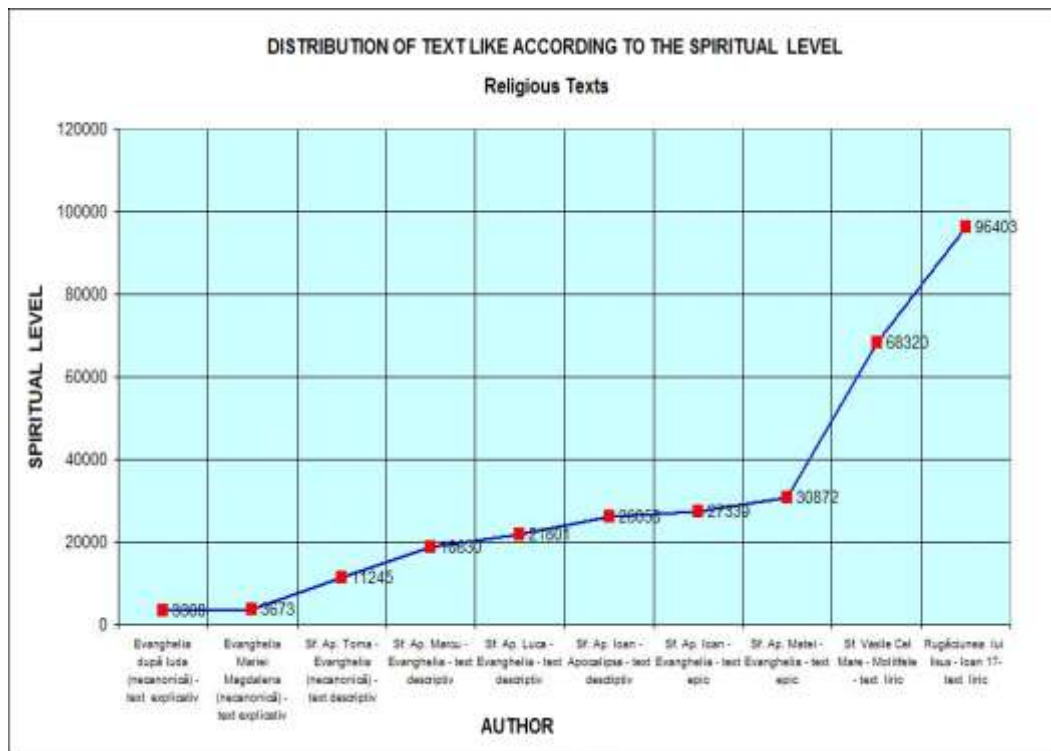


Fig. 6. A

Also, on the same criteria of distribution of the *spiritual level* there have been analysed a series of texts selected from the curricula of a psychology faculty. The distribution diagram is presented in the Fig. 6. b.

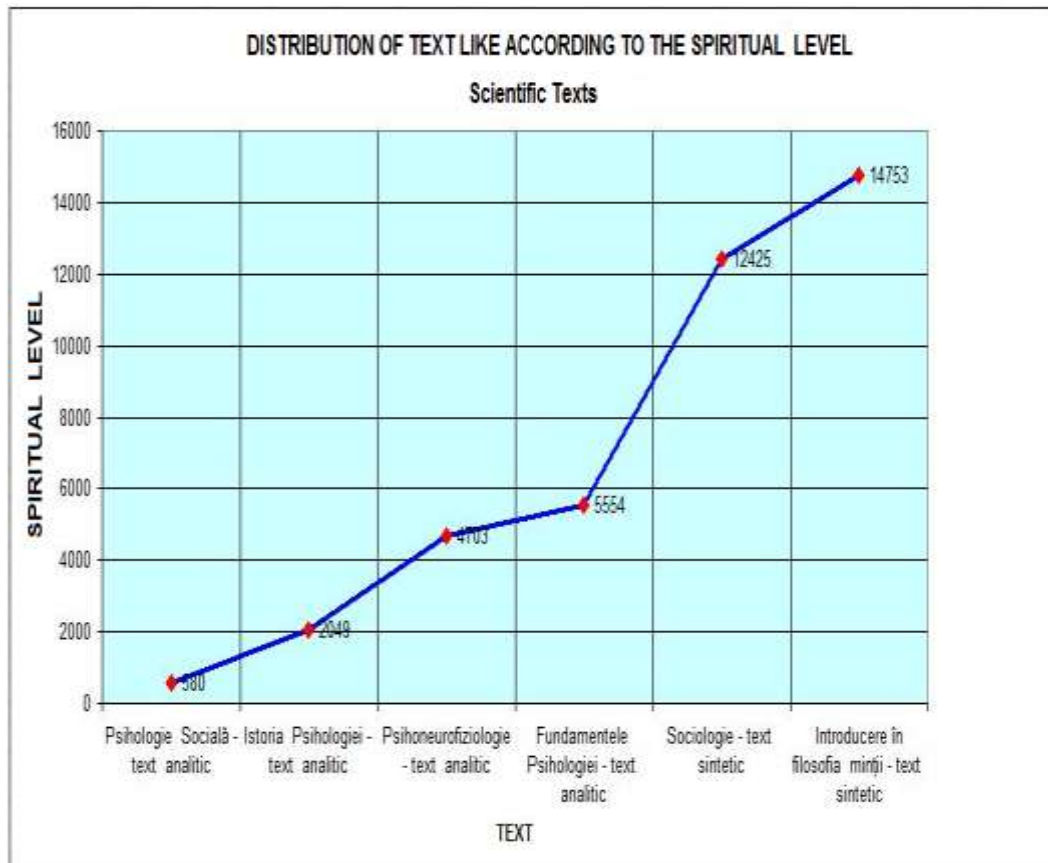


Fig. 6. b

These experimental data explicitly confirm the model of polarisation suggested in the Fig. 5, a and b. Because the polarisation is done based on the level of the spiritual status, we shall suggestively represent the experimental data on the same diagram (Fig.7).

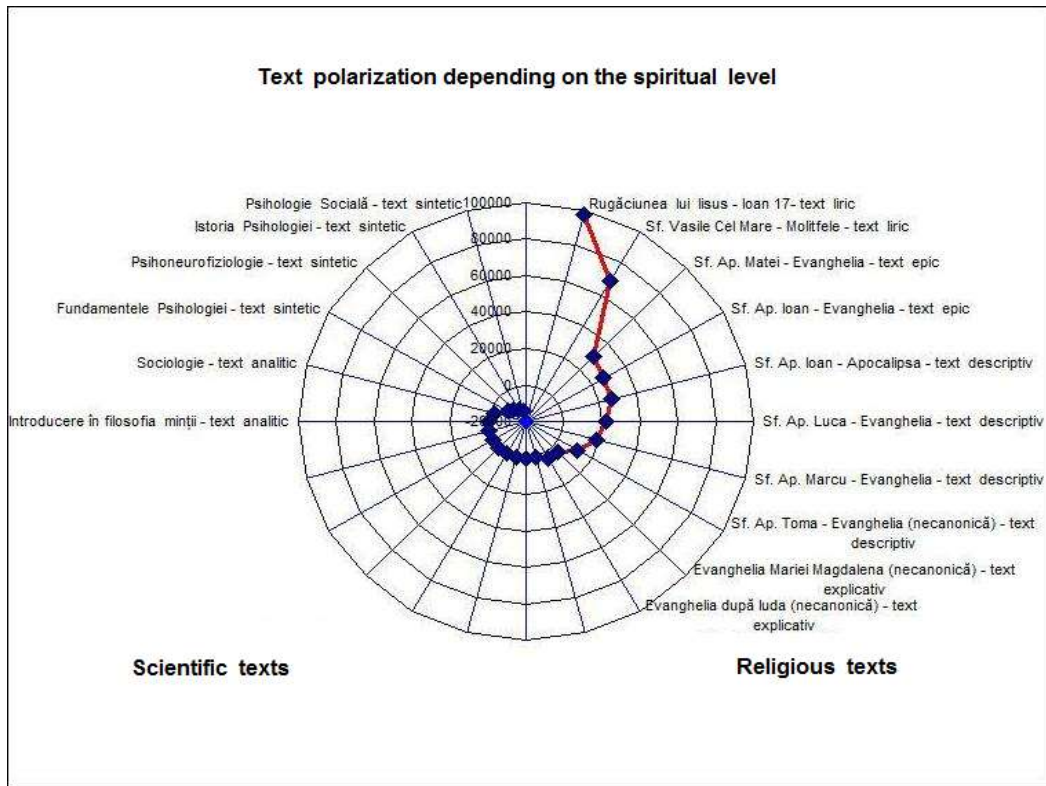


Fig. 7

### Conclusions

The two applications presented in this work bring at least the necessary experimental arguments that can certify the fundamental relationship between knowledge and spirituality manifested in the human being, as intrinsic part of the cognitive mechanisms. It is very important that this reality that we have revealed here to be undertaken on a level of formative-educational vision. The spiritual status emphasized by the application suggested here is an incontestable resource of the human being. In order to be correctly used, it has to be known and managed. The most handy example of the importance of knowing this reality is the one that refers to the educational process. This way, knowing that on the grounds of a high spiritual level we can not cultivate a pattern of systematic thinking (for example) as on the grounds of a low spiritual level we can not achieve spiritual performances, it should be enough to be able to re-adapt the selection criteria toward certain types of future activity fields for which the school age children, the youth, undertake in study, in an ample and complex process of the development of their own personality.

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