

## **Swarm Intelligent Optimized Method of Development of Noble Life in the perspective of Indian Scientific Philosophy and Psychology**

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### **Abstract**

*Many times, the Human being is having the most deplorable ignorance about his own being. It usually remains in 'Aatmik Abodhita' or ignorance about Soul in men. i.e. at one hand, they don't possess any desire at all to get true knowledge about their soul and on other hand their own various pleasure-seeking low-love produce in their soul intense soul darkness. This type of examining your ideas could not give good evidence. Scientist are working on behaviorism. They got success about rats and pigeons but had less success at understanding human beings. The paper is an effort to deal with Swarm Intelligent technique to deal with optimized method of development of noble life in the perspective of Indian scientific philosophy and psychology.*

**Keywords:** *Swarm, Intelligent, Optimum, Noble Life, Indian Scientific Philosophy, Psychology, ACO*

### **INTRODUCTION**

Authors and guide of this paper are belong to different fields and disciplines and when they are together for a same interest then they uplifted the human consciousness. The beauty of this paper is that it give us an idea, how to relate psychology to science. This paper is a mathematical framework to calculate the spiritual factor.

### **Historical Background of Concept The way Humans and Animals think and act**

<sup>[1]</sup>The origins of Scientific psychology are usually traced to the work of the German physicist Hermann Von Helmholtz (1821–1894) and his student Wilhelm Wundt (1832–1920). Helmholtz applied the scientific method to the study of human vision, and his Handbook of Physiological Optics is even now described as “the single most important treatise on the

physics and physiology of human vision” (Nalwa, 1993, p.15). The first laboratory of experimental psychology was established by Wundt in 1879, at the University of Leipzig. Wundt handled all the experiments in which his workers would perform task while introspecting on their thought processes. The careful controls by Wundt went a long way for making psychology is a science, but the subjective nature of the data made says that a scientist would ever disconfirm own theories. Biologists studying animal behavior, on the other hand, lacked introspective data and developed an objective methodology, as described by H.S.Jennings (1906) in his influential work Behavior of the Lower Organisms. Applying this viewpoint to humans, the behaviorism movement, led BEHAVIORISM by John Watson (1878–

1958), and rejected any theory involving mental processes on the grounds.

### **The Foundations of Artificial Intelligence**

This type of examining your ideas could not give good evidence. Scientists are working on behaviorism. They got success about rats and pigeons but had less success at understanding human beings. Cognitive psychology is that type of psychology that shows the brain as an information-processing device, William James (1842–1910) worked on Cognitive Psychology first. Helmholtz also said that perception involved a form of unconscious logical inference. The cognitive viewpoint was developed by behaviorism in USA, but at Cambridge's Applied Psychology Unit, which is directed by Frederic Bartlett (1886–1969), cognitive modeling was able to attract attention. Bartlett's student and successor Kenneth Craik (1943) reestablished the legitimacy of such "mental" terms as beliefs and goals, they further says, using pressure and temperature to talk about gases, despite their being made of molecules that have neither.

Craik explained that this was a good design for an agent: If the organism carries a "small-scale model" of external reality and of its own possible actions within its head, it can tryout various things, and take which is the best of them, understand the future situations, take the knowledge of past events considering with the present and future situations.

After Craik death his work was done by Donald Broadbent, who gave book Perception and Communication (1958). This the first works to model psychological phenomena as information processing. In USA computer modeling led to the development in the field of cognitive science. The field started at a workshop in September 1956 at MIT. In

this workshop, George Miller presented The Magic Number Seven, Noam Chomsky presented Three Models of Language, and Allen Newell and Herbert Simon presented The Logic Theory Machine. These influential papers showed how computer models could be used to address the psychology of memory, language, and logical thinking, respectively. It is now a common view among psychologists that "a cognitive theory should be like a computer program".

### **Complex Human personality**

Human are so complex person. We don't need a scientist or an academic researcher to know that human are so complex, you just have to spend time with human and you understand. Well, you understand that humans are so complex. No matter how much time you spent or how long you have been in a same field, or we don't need training to understand human beings, We have always to learn something. "Interview and interrogation", always surprise us, and timing of this is 1 to 5 days, we have all the training. That is not true. There is so much to learn, we find that we are still learning. There is no age to learn something.

### **Swarm intelligence**

Swarm intelligence (SI) is the collective behavior of decentralized, self-organized systems, natural or artificial. The concept is employed in work on artificial intelligence. The expression was introduced by Gerardo Beni and Jing Wang in 1989, in the context of cellular robotic systems.<sup>[3]</sup> Super Intelligence systems have a population of simple agents who interacting with one another and with environment. Some time inspiration comes from nature, eg-biological systems. So, the agents follow some rules, and there is no centralized control structure show how an agents should behave, local, interactions between

agents lead to "intelligent" global behavior. Some of examples of Super Intelligence is ant colonies, bird flocking, animal herding, bacterial growth, fish schooling and microbial intelligence. The application of swarm principles to robots is called swarm robotics, while 'swarm intelligence' refers to the more general set of algorithms. 'Swarm Prediction' has been used in the context of forecasting problems [6].

### **The Core Idea of the paper**

#### **General Characteristics of Soul Skeleton and Ignorance of man about it-**

Human beings are unable to know the highly essential truths about the nature and organism of their soul, its diseases and its evolution. They don't possess any awareness even. It is absence of all cognitions which is called ignorance about our own soul. Its excess is not found in Animal world. We can say human soul is the organized Life-Force, comprising of different kinds of powers, inhabiting the living human body. The answers are still in debate for below prime Questions before us-

Its origin, Its relation with body, its organisms, love to different kind of pleasures, prevalence of various kinds of falsehoods and evil practices, most deplorable soul degradation, deliverance of man from such degradation, necessity and various development methods of various life-giving forces to him.

#### **Various component groups that develop in the incomplete soul of mankind**

**C(1)**-Powers which go to build, maintain keep alive, and keep control over the body.

**C(2)**-Several kinds of knowledge-imparting mental powers.

**C(3)**- Several kinds of pleasures and pain imparting consciousness.

**C(4)**- Several kinds of Loves for pleasures and hatred or repulsion for pain.

#### **[5] First Group of Mental Powers**

FG1-Sense of Sight, giving consciousness of forms.

FG2-Sense of hearing, giving consciousness of sound.

FG3-Sense of palate, giving consciousness of taste.

FG4-Sense of Smell, giving consciousness of odors.

FG5-Sense of Touch, giving consciousness of Heat and cold, weight of material of object.

FG6-Sense of Touch, giving consciousness of roughness and smoothness of materials.

#### **Second Group of Mental Powers**

SG1-Consciousness of ego or 'I'.

SG2-Consciousness of 'My' and 'me'.

SG3-Consciousness of 'others'.

SG4-Consciousness of 'his' or 'her' pertaining to others.

#### **Third Group of Mental Powers**

TG1-Retention, TG2-Recall, TG3-Imitation, TG4-Imagination, TG5-Inquisitiveness, TG6-Thinking/Discrimination, TG7-Logical Reasoning, TG8-Attention.

#### **Fourth Group of Mental Powers**

FRG1-In Relation to Spatial forms:

Consciousness of Straightness/ line, an edge or boundary or any length or height.

Consciousness of largeness, smallness or equality.

Consciousness of circular or globular form.

Consciousness of angles formed of two lines.

Consciousness of various figures formed of several lines as triangle, rectangle, heptagon etc.

Consciousness of parallel lines.

Consciousness of level surfaces.

Consciousness of various kinds of arched figures.

FRG2-General Consciousness of beauty and ugliness of any form and shape.

Consciousness of proportion and disproportion, orderliness/ disorderliness or harmony/disharmony.

Consciousness of cleanliness/ dirtiness.

Consciousness of brilliance and dullness.

FRG3-Consciousness of harmony and rhythm in sound waves.

FRG4-Consciousness of space and time i.e. Enumeration, extent, finite and infiniteness, limited/unlimitedness.

FRG5-Consciousness of constitution of organized living forms, health, disease and death of living bodies.

FRG6-Consciousness of ethereal, gaseous, liquid and solid states.

FRG7-Consciousness of differentiation of material objects.

FRG8-Consciousness of motion and energy of inanimate forces, their transformation from one to other, various changes in materials, immutable laws of nature.

FRG9-Consciousness of mutual differentiation of various living forces,

FRG10--Consciousness of physical development and degradation of organized living bodies or forms.

### **Love for Various Kinds of Pleasures in the Human World-Following major groups**

L1-Love for various pleasures pertaining to body.

L2-Love for various pleasures pertaining to self or ego.

L3-Love for various pleasures resulting affection of off-springs.

L4-Love for various pleasures pertaining to wealth and property.

L5-Love for various pleasures derived from traditional beliefs, social connections and various habits.

L6-Love for various pleasures derived from violence.

L7-Love for various pleasures derived from false beliefs.

L8-Love for various pleasures arising out of various altruistic feelings.

### **Chief Symptoms of the Degradation of Human Soul-4 Chief Symptoms**

SY (1) Insensitiveness or Hardness of soul and resultant soul- darkness and soul-blindness.

SY (2) Perversion of soul-vision

SY (3) The Creation of unnecessary and harmful pains for soul.

SY (4) The Destruction of constructive powers of soul and its complete death. The True method of communion with Devatma.

### **Four higher Feelings by means a fit soul is able to establish communion with Supreme.**

FL1- The true and unshakable faith in his true Dev-Rup or Sublime Beauty.

FL2- True reverence for his true Sublime Beauty.

FL3- Unshakable feeling of gratitude towards his true Dev-Rup or Sublime Beauty, for highest spiritual blessing received from him.

FL4- Feeling of attraction for his 'Dev-Prabhav' or highest Sublime Influences.

### **[8]The Methods of spiritual exercise for the Development of the feeling of faith towards the Sublime Beauty**

M1-Study of and Meditation for the Realization over the Life development of the Sublime-Life.

M2-Study of and Meditation on various writings Concerned with Supreme Ideals.

M3- All kinds of pleasures for the realization of His supreme ideal.

M4-All kinds of relations of caste, creed, society and family, etc.

M5-Feeling for accepting pain in order to take and bear different kinds of intense and terrible shocks for the realization of His supreme Ideal.

M6- Feeling of complete utilization of all his energies, physical and mental, and of

education, wealth and property etc. for the realization of His supreme Ideal.

**A fit person can perform his spiritual exercises of paying off the spiritual debt to develop his Spiritual Life.**

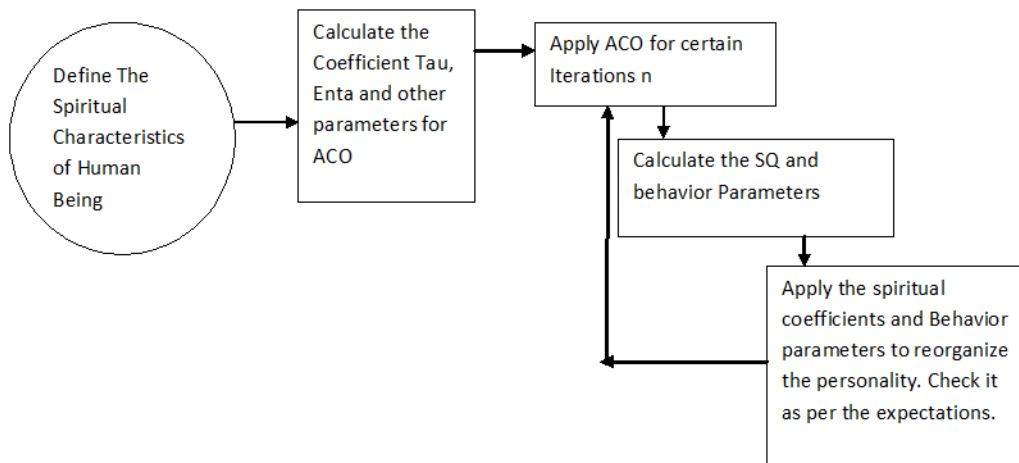
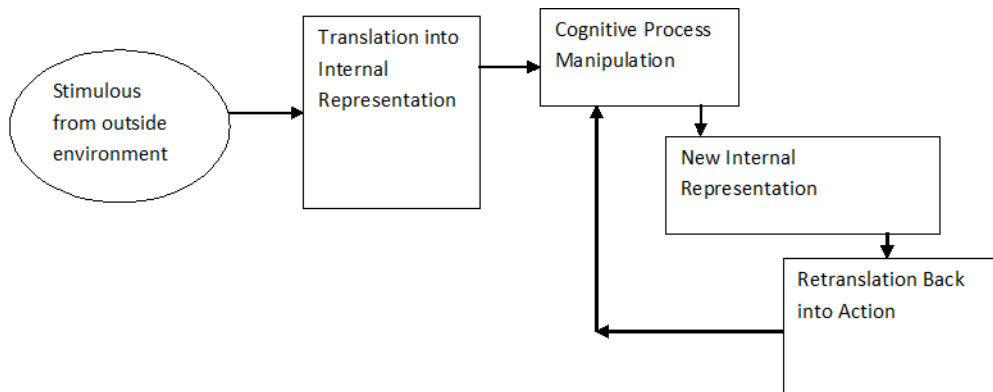
P1-By Donating Money as an offering.

P2-By donating as an offering some land, house, shop, well etc.

P3-By utilizing his mental powers like education, skill, thinking faculty, writing capacity, power of speech for him.

P4-By utilizing his body like energies of his hands and feet etc. for Him.

**The ACO Based Framework and applying our Spiritual Model-**



### The Actual ACO Algorithm<sup>[7]</sup>



Ant behavior was the inspiration for the metaheuristic optimization technique<sup>[9]</sup>



**Algorithm 1** The framework of a basic ACO algorithm

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input: An instance  $P$  of a CO problem model  $\mathcal{P} = (S, f, \Omega)$ .
InitializePheromoneValues( $\mathcal{T}$ )
 $s_{bs} \leftarrow \text{NULL}$ 
while termination conditions not met do
     $\mathcal{S}_{iter} \leftarrow \emptyset$ 
    for  $j = 1, \dots, n_a$  do
         $s \leftarrow \text{ConstructSolution}(\mathcal{T})$ 
        if  $s$  is a valid solution then
             $s \leftarrow \text{LocalSearch}(s)$  {optional}
            if ( $f(s) < f(s_{bs})$ ) or ( $s_{bs} = \text{NULL}$ ) then  $s_{bs} \leftarrow s$ 
             $\mathcal{S}_{iter} \leftarrow \mathcal{S}_{iter} \cup \{s\}$ 
        end if
    end for
    ApplyPheromoneUpdate( $\mathcal{T}, \mathcal{S}_{iter}, s_{bs}$ )
end while
output: The best-so-far solution  $s_{bs}$ 
    
```

$$p(i, j) = \frac{[\tau(i, j)] \cdot [\eta(i, j)]^\beta}{\sum_{g \in \text{allowed}} [\tau(i, g)] \cdot [\eta(i, g)]^\beta}$$

• Strength of pheromone  $\tau(i, j)$  is favourability of  $j$  following  $i$

[10] Emphasises “global goodness” : the **pheromone matrix**

- Visibility  $\eta(i, j) = 1/d(i, j)$  is a simple heuristic guiding construction of the tour. In this case it's greedy – the nearest town is the most desirable (seen

[11] from a local point of view)  $\beta$  is a constant,

- $\sum_{g \in \text{allowed}}$ : normalise over all the towns  $g$  that are still permitted to be added to the tour, i.e. not on the tour already

- So  $\tau$  and  $\eta$  trade off global and local factors in construction of tour

**Pheromone**

- Pheromone trail evaporates a small amount after every iteration

$$\tau(i, j) = \rho \cdot \tau(i, j) + \Delta\tau_{ij}$$

where  $0 < \rho < 1$  is an evaporation constant

- The density of pheromone laid on edge  $(i, j)$  by the  $m$  ants at that timestep is

$$\Delta\tau_{ij} = \sum_{k=1}^m \Delta\tau_{ij}^k$$

- $\Delta\tau_{ij}^k = Q/L_k$  if  $k$ th ant uses edge  $(i, j)$  in its tour, else 0.  $Q$  is a constant and  $L_k$  is the length of  $k$ 's tour. Pheromone density for  $k$ 's tour.

**Our Approach and Mathematical Framework**

Applying ACO Algorithm for development of Noble Life

So till now, we have understood the structure of soul and various issues stated above which are in brief as below.

Various component groups that develop in the incomplete soul of mankind

C1 to C4

First Group of Mental Powers

FG1 to FG6

Second Group of Mental Powers

SG1 to SG4

Third Group of Mental Powers

TG1 to TG8

Fourth Group of Mental Powers

FRG1 to FRG10

Love for Various Kinds of Pleasures in the Human World

L1 to L8

Chief Symptoms of the Degradation of Human Soul

SY1 to SY4

Four higher Feelings by means a fit soul is able to establish communion with Supreme.

FL1 to FL4

The Methods of spiritual exercise for the Development of the feeling of faith towards the Sublime Beauty

M1 to M6

A fit person can perform his spiritual exercises of paying off the spiritual debt to develop his Spiritual Life.

P1 to P4

While applying the ACO algo for best possible noble life full of joy and happiness, prosperity and peace, we need to increase the positive spiritual traits and reduce the components which contribute in the degradation of soul.

We try to design all possible combinations of spiritual traits defined above.

Here we have introduced a concept of spiritual Quotient which will be an algebraic objective function of Above given Spiritual traits of a soul.

For better and noble human life, our target is to optimize it.

The parameters of SQ will be 4 components in their different priorities and their mental powers. It defines the global factor equivalent to Tau  $\tau$  in ACO. It defines the Personality of the individual. It is desirability component.

$\tau$  the Spiritual Quotient  $SQ = F_n (pr1 * C1, pr2 * C2, pr3 * C3, pr4 * C4) + \sum_{i=1}^{to 6} k_i * FG_i + \sum_{j=1}^{to 4} k_j * SG_j + \sum_{m=1}^{to 8} k_m * TG_m + \sum_{n=1}^{to 10} k_n * FRG_n$

Where  $pr_i$  is the priority of the components and  $pr1$  has highest and  $pr4$  has lowest priority.  $k_i, k_j, k_m, k_n$ , are the respective mental power weightings in individual personality.

The parameters of EQ is evil quotient not the emotional quotient and responsible for attraction towards the different kind of pleasures and deals with symptoms in the degradation of human soul in their different priorities. It defines the local factor based on individual's locality,

situation and circumstances. Its a subjective in nature. Equivalent to Enta  $\eta$  in ACO. It defines the behavior of the individual. It is visibility component.

$\eta$  the Behavior  $B = 1 / \{ F_n (pr1 * SY1, pr2 * SY2, pr3 * SY3, pr4 * SY4) + \sum_{i=1}^{to 8} k_i * L_i \}$

$\beta$  is a constant, Rho  $\rho$  is the evaporation constant and shows the deviation of individual from good path. Its value is between 0 and 1.

$\tau(i,j) = \rho * \tau(i,j) + \Delta \tau(i,j)$   
 $\Delta \tau(i,j) = \sum_{m=1}^{to h} \Delta \tau(i,j)^m$  Where  
 $\Delta \tau(i,j)^m = Q / L_k$   
 $L_k = \sum_{i=1}^{to 4} 0.6 * FL_i + \sum_{j=1}^{to 6} 0.3 * M_j + \sum_{m=1}^{to 4} 0.1 * P_m$

If  $k^{th}$  person uses feature  $(i,j)$  in his personality, else 0. Q is constant and  $L_k$  is the function of Four higher Feelings by means a fit soul is able to establish communion with Supreme, the features of spiritual exercise for the Development of the feeling of faith towards the Sublime Beauty and traits that a fit person can perform his spiritual exercises of paying off the spiritual debt to develop his Spiritual Life.

For all possible combinations of spiritual traits solutions, calculate  $\tau$  check the feasibility of solution. If it is most suitable solution (amongst previously calculated solution elements) then save it and print as the final path of spiritual life of individual else apply the process on next combination of traits. Process continues in all possible combinations which will consist of exhaustive calculations.

### Novelty in the presented paper

Authors and guide of this paper belong to different fields and disciplines and when they are together for a same interest then they uplifted the human consciousness. In

philosophy, there are many pros and cons but its look interesting to see that the complex concept like Life, human behavior and spiritual growth is computed mathematically and trying to be quantified. We have also tried to show a quantitative method of a subjective concept. The computed solutions for the human life problems, spiritual concepts and it will lead to new way to the study of human intelligence and nature.

### **Complexity Analysis**

Human beings and human mind and human behaviour all are so complex to understand. The all attributes are subjective concepts and differ from individual to other list of do's and don'ts may be long and endless so a matter to explore. Priority may also vary. This is NP complete problem and it is so complex phenomena .The run time complexity of NP complete problem will be finite but possible combinations of human traits is very large.

### **Recommendations**

This approach is a new methodology to define the Human Life span and compute spiritual factor, spiritual wellness, and behavior and decision making in various walks of life journey like deciding good or bad, true or false and do or not to do. We are in complex situations and our one wrong decision may move us to cashes and tensions. The results by this approach may be a helping tool for individual to check the spiritual quotient.

It is one of the reasons that's why it is so important to continually update our skills for interview and interrogation, knows how to deal with persons of psychosomatic disorders, associate with professional organizations, read some professional trade magazines, and attend academic conferences. We all know that humans are complex in nature. So, we need to keep learning more and more about them.

### **Limitations**

This framework may not work for large no. of traits. We need to try for exploration and exploitation for important components which are using in this phenomena. Rest of time we have to choose greedily among traits using  $\max_j P(i,j)$ . Global best individual allowed to deposit pheromone at end of each iteration.

The traits may varying and their priorities also may vary in deep study and defining characteristics of human spiritual traits is so much important.

### **Future Scope and possible Applications**

We may further work on identification of complete traits and priorities of traits. Simulation structure and Logistic model may be structured and there is an expert system may be formulated to represent concept of Olivelier.

It may be used to identify good or bad coworker and honest employee or friend for individual. It can also use in social reformation and it may prove to identification of individual characteristics for various decisions making. The definition of scientific approach used in different ways in almost all walks of life. The results are questionnaire and analyzed.

### **CONCLUSION**

We are human beings and we need some training, from firearms training to domestic violence problems, to how to use the databases. TALK TO PEOPLE is perform most and it is important to perform. We need to interact to people such a way to draw out so relevant details from them while evaluating or estimating for symbol of deception and truthfulness. Talk to people who are suffering from stress, who has been traumatized, who are alcoholic, who have lot of anger, who have loss of memory issues, and who may or may not want to deal and give them information.



This paper is a successful mathematical framework to compute the spiritual factor and it also relate direct the individual for more better and noble life.

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