

# BĀLI-PRAJÑĀ

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**BALI SANSKRIT INSTITUTE AND UNIVERSITY OF MAHENDRADATTA**

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## PREFACE

The Upaniṣads boldly declare that, “that is knowledge which liberates everyone (*sā vidyā yā vimuktaye*)”. All the scriptures accept this fact and handed down the *śruti* tradition of empowering oneself through constant practice. It suggests us that everyone must seek for knowledge and it will liberate us from ignorance and hence no suffering. So knowledge is power and the source of good living. If one follows this doctrine he will attain without any difficulty. If we want to grow it is only through knowledge and knowledge alone.

The Vedic tradition have been handed down since time immemorial when there was no religion, caste, creed, power blocks and supremacy. There was only one religion which was universally accepted with humility and forbearance. The division among the communities and society brought various cults and isms at a very late period. Faith, believes, philosophy and ways of living forced us to accept one path and that became the religion afterwards which are widely popular now-a-days. The scientific and intellectual content in the Vedic tradition continued the quest for knowing the truth and developed a roadmap for attaining ones goal in life. Hence, the importance of the scientific enquiry started from the Vedic tradition which discovered many secrets of the universe till today.

Bali is called as island of art and culture, island of ritual, island of tourism, island of peace and harmony, island of science and island of health and healing. There was a need for the appreciation of the wisdom of this island to rest of the world and keeping this long-felt desire we planned to bringout the rich heritage and culture through publishing the international journal entitled Bāli-Prajñā.

Myself a Chair Professor of the Indian Council of Cultural Relation, New Delhi at Universitas Mahendradatta, Denpasar suggested to the Rector to publish an international journal in Indology from the University. He instantly agreed to this fact and welcomed the idea. As a result of which, accordingly we planned and approached the scholars to contribute their valuable research papers. As per our request they responded positively and sent papers. This first volume and no.1 is the first issue in this cherished endeavour to satisfy the need of intellectual and scientific enquiry on indology.

As the scientific knowledge based on existing data has widely grown over the modern era the scholar and researchers will be benefited through their contributions to this journal of Indology. By understanding this frontier of knowledge this attempt will fulfill the long-cherished desire of the scientific enquiry of the tradition, culture to achieve both material and spiritual wisdom to a large extent.

We gratefully acknowledge to the scholars those who promptly sent their valuable papers in a very short period without whose support the volume would not have been possible. Then we thank the Rector. Dr. Arya Vedakarna who initiated to publish the volume from his university and for the first time in Bali. We also thank Prof. I Made

Titib for his advice and encouragement. We cannot forget the help rendered by Wayan Padet, Putu Eka Putri and Wayan Kurniasa for their help. Finally, we thank the proprietor Mr. Wayan Yasa for printing this Volume in a very short period of time. At last we can say that we welcome suggestions from the world of scholars to make this dream a great success and expect similar support with hearty cooperation in future too.

*jayatu sanskṛtam*

31 May 2012  
Denpasar

Subash Chandra Dash  
I Ketut Donder

## FOREWORD

Tradition, culture, rituals, art and science are the outcome of our rich Vedic heritage. It is due to the constant effort of the ancient people that we have got such a bulk of Āgamas and Śāstras. Bali is popularly known as the place of Hindu rituals and sacrifices. But there are many more things in Bali and it is many times called as the island of worship, rituals, culture, art, craft and science. Hence Bali has a varieties and is proved to be unique in it's traditional and modern scientific technologies of progress. As the people of Bali are mostly peace loving and religious minded, the scientific background of this land however cannot be overlooked. Hence Bali is said to be the "island of science" also.

In this regard, to bringout the hidden treasures of knowledge of Bali, when Prof. Subash Chandra Dash proposed me to publish a journal of international standard, I was delighted and agreed to do so from our university. Then he took up the initiative to go ahead with the journal and contacted accordingly to fulfill our dream by scientific contributions of many world class scholars in their respective branches of study.

It gives me immense pleasure to announce the first volume and first issue of the international journal entitled Bāli-Prajñā devoted to the scientific contribution in the field of Indology and culture published from the Universitas Mahendradatta, Denpasar, Bali, Indonesia. It was a long desire and today it has been fulfilled by the hard working and pain staking efforts of the Chief Editor Prof. Dr. Subash Chandra Dash, Chair Professor who initiated the idea to me. It is due to his advise and encouragement that we are presenting the first volume to the world of scholars as a small contribution. I also appreciate the help rendered by the renouned scholar and rector Prof. Dr. I Made Titib as the advisor to this journal. I deeply appreciate the tireless effort of the team of editors I Ketut Donder and I Gede Suwantana for bringing out this volume with the chief-editor Prof. Dr. Subash Chandra Dash. The technical support given by three scholars are also praise worthy for this volume. Finally I thank the proprietor Mr. Wayan Yasa who agreed to publish this journal in a very short time.

At the end I can say that dreams can be fulfilled if we struggle hard and work with strong unity and co-operation. Now Bāli-Prajñā the new international journal will open up new vistas of scientific knowledge to the rest of the world.

I congratulate the chief editor Prof. Subash Chandra Dash and board of editors K. Donder and Gede Suwantana for the great success of launching of the international journal on Indology and culture from The Bali Island.

30 May 2012  
Denpasar

I Gusti Ngurah Arya Wedakarna Mahendradatta Wedastraputra Suyasa III

Rector of Mahendradatta University, Denpasar, Bali



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# THE EFFECT OF AGNIHOTRA AND PSYCHO-COSMOS PHENOMENA :

(The Logical Analysis of the Ritual of Agnihotra and Human Effort to Creating Harmony Around of the Cosmic System)

I Ketut Donder

## I. INTRODUCTION

Many people think that the Hindu ritual tradition inherited from generation to generation without any by common sense. This reasoning is totally incorrect, because the Hindu religion comes from the Vedas, and Veda means Science. In addition, the Veda consists of two systems of knowledge that covers the whole of human knowledge required. All of this knowledge are grouped under two kinds of knowledge, namely: first *parāvidyā* discuss any matter relating to the transcendental and *aparāvidyā* discussing all things related to knowledge of the senses. Thus, Hinduism is rooted in the Vedas, based on spiritual knowledge and logical knowledge. Because it includes rituals of Hinduism, not only the faith or belief, nor is it only the apology, and it is not dogma (Donder, 2006). Vedic teachings are controlled by the manifestation of God. Goddess Saraswati also means “flowing”. It means that; knowledge based on Vedic Hindu will always fit all the time because it flows following the course of time. Therefore, Hinduism is not worried about the new interpretations coming from anywhere.

In Hinduism, there are five hierarchies of a comprehensive reference that should be made a benchmark to assess relatively whether a view, opinion or concept can be declare correct or not. The five hierarchies of comprehensive reference are the *sruti*, *smṛti*, *śīla*, *ācāra* and *ātmastuti*. Reference to the hierarchies of truth for the second, third, fourth, and fifth are interpretations. On that account, the Hindus should not worry when the texts or the *mantram* texts and ritual practices are given interpretations. Hindus should also believe in the Vedic teachings as stated by Manusmṛti or Dharmaśāstra XII.95-96 where “all forms of teaching (including) the interpretation going up against the truth of the Vedas, sooner or later will be destroyed or perish as destroyed by supernatural powers.” (Pudja, 1973:743; Deshpande, 2010: 826-827). Based on this reason, the interpretation of ritual paraphernalia must continue to be pursued for the needs of younger and future generations demanding rational meanings that make sense.

In Hinduism also has three basic framework, namely *tattva* (philosophy), *Suśīla* (morality) and *upacāra* (ritual). That means, the Hindu religion is based on a consideration of Philosophical, ethical (moral), and practical considerations. Ritual is Meant in this context is not just a mere ceremonial, as understood by many people. However, the ritual sacrifice or offering is based on a pure mind. Another more precise term *yajña*

is the which is Often translated as “ritual”. In Addition to the above three terms, the implementation of the Hindu Teachings are also based on *tri-pramāṇa* (three arguments), the Firstly: *śabda-pramāṇa*, that is the reason That comes from religious texts; the second; *anumāna-pramāṇa*, Reasons derived from the consideration of the logical mind; and third: *pratyakṣa-pramāṇa*, namely, the reason is based on practical aspects. Thus, Hinduism is a religion that is rational and scientific (Donder and Wisarja, 2010).

Based on this reason, the interpretation of ritual paraphernalia must continue to be pursued for the needs of younger and future generations demanding rational meanings That make sense. There is a concern of Various parties, and this Happens to all followers of Religions. It is the concern for the rationalization of religious Efforts Teachings. They worry about the mistakes in the interpretation against the religious Teachings. It Happens Because many people understand That religion is just a mere belief, so That it does not require any analysis of critical thinking. They also understand That logic is Contrary to the beliefs or religion. This kind of mindset will any interpretation considers something sacred. However, Such concern is not Really Necessary Because the logical truth in Hinduism can be accepted as said by Maharṣi Vasistha (a famous Maharṣi in the Veda): *yukti-yuktam upādeyam vacanam balakād api anyat tṛṇam iva tvājyam apy uktam padma janmanā*. ‘Even the words of a little child That make sense should be accepted. All the others must be rejected, although it is said to Derive from the Creator. ‘ (Radhakrishnan, 2010:133).

There are so many *śloka* and *mantra* in Hinduism as parallel to the scientific theories and can been verified scientifically. Just quite unfortunate, scientists do not consider religion as scientific knowledge. These are the mistakes of the past between the two groups, namely the exact group of scientists, with a group of theologians in the West. The attitude of Western theologians very apologist, and nor hegemonic. This happened in the days of church authority. At that time, the church wanted to suppress the scientists, and even punished if they deem incompatible with the views of the church. These disputes caused huge resentment on the part of scientists exact, until today. Therefore, in the West is still visible enmity between the exact and religious disciplines. As we know, that this century is the century of the triumph of science, because it is inexact to reply to scientists attitudes and behavior of the ancient theologians. That is why, scientists do not recognize the religious teachings as scientific knowledge. All of the story takes place in the West, but such stories do not happen in the East especially in India as the birthplace of the Hindu religion.

Hinduism sourced in the Vedas, as the knowledge of the holy word of God, it was directly received by *Ṛṣi*. Knowledge of the Vedas as a sacred word, and then discussed in depth by using the approach of intellectual and spiritual knowledge. This was all discussed in the Upaniṣads. Below are given some examples *śloka*, which indicates the value of scientific knowledge, also deals with *Agnihotra* ritual, for example:

The Mānava Dharmaśāstra III.76, described, that: *agnau prāstāhutiḥ samyag ādityam upatiṣṭhate, ādityājīyāte vṛstir vṛṣṭerannam tataḥ prajā*.’ Libations of clarified

butter duly cast in the sacrificial fire ascent to the sun; from the sun originates the rain; from the rain, do the provisions; and from the provisions, the creatures' (Deshpande, 2010:144). The Bhagavadgītā II.16, say: *nāsato vidyate bhāvo nābhāvo vidyate sataḥ, ubhayor api dr̥ṣṭo 'ntas tv anayos tattva-darsibhiḥ* 'Of the non-existent there is no coming to be; of the existent there is no ceasing to be. The conclusion about these two has been perceived by the seers of truth'. And then, Bhagavadgītā III.14 say: *annād bhavanti bhūtāni parjanyaḥ anna-sambhavaḥ, yajñād bhavati parjanyaḥ yajñaḥ karma-samudbhavaḥ* 'From food creatures come into being; from rain is the birth of food; from sacrifice rain comes into being and sacrifice is born of work (Radhakrishnan, 2009:136).

The three ślokas above clearly demonstrate scientific values, as described that the material is dropped into the fire in the Kuṇḍa of Agnihotra, will rise into the sky. It is very scientific, because the material is burned into the fire, will be destroyed and then into the smoke that drifted into the sky. *Agnihotra* smoke is composed of a combination of many elements, namely seeds, flowers, leaves, milk, honey, thought vibrations, vibrations of the mantra, ultimately affecting the airborne particles in the space. Theology of Hindu Pantheism teaches that: every particle in the universe inhabited by God or the manifestation of God. Therefore, when the *Agnihotra* smoke rose into the sky, the god Indra who control each grain particle is pleased to grant the prayer space is done in the *Agnihotra* ritual. And then the god Indra, change the air particles into dew and the rain descended. Rainfall led to the growth of various types of plants, from the onset of food crops, as well as the existence of life, it is a law of causation can be scientifically proven. This explanation, related to the *śloka* in the Mānava Dharmaśāstra III.76, and the Bhagavadgītā III.14.

Here is given a scientific explanation, related to the Bhagavadgītā II.16, the meaning of this *śloka* corresponding to the Law of Immortality of Mass, or the Law of Immortality of Energy, as where the definition given by Lavoiser. Law of Immortality of Energy by Lavoiser, states that: "the substance can not be created and can not be destroyed". On the other hand, the formulation is slightly different language, Bhagavadgītā states: "what will forever be there", and "what does not exist, never will be." Actually, the formulation of the Bhagavadgītā and Lavoiser, both contain the level of scientific and theoretical explanations that can be proven by scientific research.

Based on the brief description above, there is no reason to declare the teaching of religion (especially Hinduism) is just dogma. Hindu teachings are very clear, scientific, and even supra-scientific, so if someone wants to prove Scientifics Hindu teachings, then he should have the quality of scientific knowledge and spiritual knowledge is sufficient. Hence, all Hindus believe that Hinduism can be explained through scientific explanation. If we let the Vedas as the roundness of the earth, and scientific knowledge as a measuring stick one meter, then the roundness of the earth that can be measured with a stick, with a meter stick to spread it over and over again until the finish. However, the question is: "there anyone who could use a meter measuring stick to measure the roundness of the earth?"

The Hindu Ṛṣi have used two kinds of science sticks, one stick of knowledge, “*aparāvidyā*”, ie knowledge of the logical result of the five senses, and the second is knowledge “*parāvidyā*”, which is super-logical knowledge, which is called the sixth sense knowledge. This is a complete system of Hindu knowledge, which can lead mankind to achieve the goal of his life, namely: *mokṣārtham jagadhitā ya ca iti dharma*, which can live in peace and prosperity on earth, as well as achieving freedom and becoming one with God.

## II. DISCUSSION

### 2.1 The Methodology used in Science of Spirituality

The theme of “*Agnihotra and Effect of Psycho-Cosmic*” actually include of discourse of science and spirituality. In the past few decades, many people had distanced relationship between science and spirituality. The Spiritual terms they consider as the subjective experience only, that does not have a scientific truth. On the other hand, they are exalting truths of science as the most rational. The use just only one perspective, i.e a subjective approach or the objective approach, this method has been increasingly abandoned by scientists today. In this time, the multi-perspective approach has considered as a complete approach.

Nowadays scientists became interested in researching the spiritual with the scientific approach. Dr. Masaru Emoto (2007) as written in his book *The Miracle of Water* is a scientist of the Japan, through a very thorough research about the water crystals has been found that words can influence the formation of water crystals. The words are sweet and tender feelings of affection and make a beautiful water crystals. In contrast, coarse words with full fury, the water crystals show the bad and terrible form. Results of research conducted by Dr. Masaru Emoto shows that the atomic electrons in each particle of water in it there is “consciousness”. The question arises, what is consciousness? This question has been raised by humans since the beginning of its existence, and also from the beginning that in Vedas are pantheistic theology has given the answer, that the universe was created by God Almighty.

God Almighty has everything: God is omnipotent, God is the Creator, God the Most Merciful, God is Great, God Almighty Small, etc.. With His power, God can make himself large infinity beyond measure, with his power as well, God can make himself very, very small, smaller than the atomic electrons. Therefore, it can not be seen by eye or with the most modern equipment. This is the basis of spirituality in the Vedic view that the discussion about the the soul and the material has a reciprocal relationship. In Hindu Cosmology (Donder, 2007) described that the universe and its contents are from Brahman or Paramātman, the universe and its contents are often also referred to as the Maya of the the Lord. Because it is between God and His creation are intimately connected. God is Absolute and Abstracts could be searched in the creation, this is the Hindu point of view in understanding God and His creation, an outlook similar to Study Phenomenology.

Gulillemin (1995) wrote that: in spirituality, the quest for Truth has necessarily to be subjective, because the Reality it propounds is, in the first instance, man's own Self, it is Pure 'Being', or Consciousness, which illumines his mind, intellect and reasoning faculty. Vedānta categorically asks, "Oh Seeker of Reality! By whom can the Knower himself be known?", (*viññātārantare, kena vijānīyāt*). The answer is: "To experience the Light of the Spirit within, one has to be that Spirit itself." Spirituality, however, assures us that, when one gains an insight into this Truth of one's own 'Being', one simultaneously cognises the same Reality of Consciousness in all the phenomena around one.

This subjective approach, however, does not mean that Spirituality has no method of investigation. In fact, it employs all the basic scientific methods of induction and deduction, observation and experimentation which make an integrated approach to Truth. This approach calls upon the seeker to study the workings of his own aspirations, and sublimate his own ego and the other components of his personality. It also insists on his practising certain disciplines and to adopt a regulated way of life. In fact, the very first Brahmasūtra (*athāto brahma jijñāsā*) urges the earnest seeker of Truth to develop a keen spirit of inquiry into the Brahman or Cosmic Intelligence, and to make intensive study, as well as efforts, to realize the various aspects of that Reality.

To guide and inspire him on this difficult path, the Upaniṣads present good 'models' of earnest seekers of Truth like Nachiketa, Svetaketu, Uddalaka, Gargi, Maitreyi and others, who vividly demonstrate the process by which this great Science is to be learnt from a competent teacher, through questioning and answering, doubting and reasoning, seeking and finding.

The logical steps leading to this experimental knowledge are also clearly laid down. It says, "Oh seeker of Reality: You have to listen and gather all the knowledge about the Self from the Teacher, then deeply ponder over all that you have learnt and assimilate that knowledge. Thereafter, visualising the nature of that Reality, you should try to stay steady in that vision till the inner mist of ignorance melts away and you experience the Light of Pure Consciousness within, as well as all around you illumining the objective world." (*ātmā vāre draṣṭavyaḥ, śrotavyaḥ mantavyaḥ, nididhyāsītavyaḥ*).

Thus, the propositions in the Upaniṣads delineating the spiritual path are logical, well-reasoned, and are therefore conclusive and practical from all points of view. In fact, the Nyāya Śāstra mentions, besides logic and reasoning, fourteen other methods of acquiring knowledge such as Evidence (*Pramāṇa*), Witness (*Prameya*), Utility (*Prayojana*), Discussion (*Vāda*), Observation (*Pratyakṣa*), Experience (*Pratyaya*) and so on, all of which are adopted in the study of the great exponent of Vedic wisdom, emphatically declared "What does not stand to reason is not Spirituality."

It is thus clear that Spirituality, though 'subjective' in experience, does not imply 'being subjective' all the way. To acquire that knowledge, one has also to be 'objective' in the sense that one has also to study and know as much as possible about the 'Self'. This implies following the prescribed disciplines, practices and exercises till one

”becomes” the Self. Even after experiencing subjectively the reality of the Self as the Cosmic Consciousness underlying all phenomena, one has to objectively communicate this experience to others for their benefit and well-being. Spirituality, therefore, is the knowledge of subjective Reality which has to be pursued objectively until it is attained, and then to be shared, like any other branch of human knowledge, with other seekers of Truth.

Spirituality does not deny the objective world altogether, but rather accepts it as only an expression, or manifestation, of the subjective Reality from which it cannot be separated. This position rightly called the ”subjective-objective” view, is very well explained by Arthur Koestler according to whom every cell of the human body is ’Januslike’ because ”it looks outside and gets connected with the external world but it has also certain independence, of its own which makes it capable of an ’inner look’ as well. Today, Psychology also admits that all access to the physical world through experience, whether objective or subjective, is only through the common denominator ’I’ which does all the experiencing. As Sir William James, the well known psychologist, said at the beginning of this century: ”The subjective experience is a full fact to which all realities of the objective experience must belong. How can it be called incomplete experience when it (Consciousness) is the sole thing that fills up the whole universe of our concrete activity? The axis of outer reality runs through the egoistic, subjective activity only”.

In this time, Quantum Physics has also found that, at the sub-atomic level, matter melts into a subtler principle where, as Gary Zukav tells us in his ’Overview of the New Physics’. The observing mind and the observed are inter-related in a real and fundamental sense. This shows that the distinction between the ’Subject’ and the ’Object’ is more apparent than real. That is why the physicist, Dr. Fritjof Capra tell us, ”We cannot talk about Nature without, at the same time, talking about ourselves. Another physicist, Dr. Roger Jones, goes as far as saying that he intends, ”to embody consciousness and subjectivity within physics and also to debunk the myth of ’subjectivity’ in Science by unearthing the essential subjective core of the process of measurement of Science.

On this point, Michael Talbot seems to give the final verdict when he says, ”There is no strict division between the subjective and objective reality Consciousness and the physical Universe are connected in some fundamental physical mechanism. This relationship between mind and reality is neither subjective nor objective but ”Omnijjective. The conclusion that emerges is, in the words of Dr. Karlis Osis, that both the objective and the subjective methods should go together in the quest of Reality ”like the two wings of a bird”.

## **2.2 Responsibility of the Intellectual Hindu**

Swami Chandrasekarendra Sarasvati (2008: xxvii) in one book, began a long discourse with a question: why the Hindus, who educated not understand the teachings of their religion? Is their education, have distanced them with their religion



and culture? If so, then it becomes a tragic irony of the Hindus. Books of the Swami Chandrasekarendra Sarasvati has become a very thick book ( $\pm$  1000 pages) with the title *Hindu Dharma: The Universal Way of Life*, has been translated into Indonesian by publishers Paramita Surabaya (2008). This book, excellent to read in order to expand the horizons of Hindu knowledge.

There has been a gap of knowledge of Hindu religion are supposed to understand. Knowledge gap is not only experienced by the Hindus in general but also to the educated Hindus, as the words of Svami Chandrasekarendra Sarasvati above. Therefore we often hear a lot of opinion Hindu intellectuals are “inconsequential” when outlining the teachings of Hinduism in public. As an example; the opinion Hindu intellectuals who say that Hindu theology is not clear or Hindu theology was in the clouds, while the intellectuals do not understand about the theology in general and Hindu theology. Properly, it is not right to say that, because of his opinions can ruin the views of others who are innocent. A Hindu’s intellectuals “should” be remember the warning Bhagavadgītā III.21, 26, 33 which states that: “the great man (intellectual) is an example, let not the intellect to fool the layman, the attitude, outlook and behavior of the intellect will be followed by others”.

There is also an intellectual Hindu, claimed that the Veda or Vedic India was not the product was not born in India. Such a statement would be laughable small children, since elementary school because everyone is either non-Hindus and Hindus have been taught by the historical record that has been proven for thousands of years that the Veda was born (revealed or revealed and accepted by the *Maharṣi* in India). Distort the true historical facts are very sinful deeds and not commendable. May the spirits of the *Maharṣi* who settled in Bali are just too angry to hear about the words that the Vedas were not born in India, because the *Maharṣi* in Bali would come to Bali because of a mandate to spread the teachings of the Vedas or socialize in Bali.

Hinduism considers that as a very innocent Hindus to forget his ancestors, the ancestors of the Hindu religion came from India. If there are Hindus would not accept the view of history and views of Hinduism, then such persons will be grouped by Emille Durkheim and the History of Religion experts, as adherents of Primitive Religion, or the Religious Tribe, or adherents of Religion Remote, and risks theology will also be included in the theology or theology of primitive and isolated. Now the question arises, in the modern era with sophisticated technology, which can find information about anything, if Hinduism and the Vedas say not born in India, then where he was born? Whoever the Hindu intellectuals should be intelligent in presenting Hinduism in the midst of competition in world religions.

### 2.3 The Religion of Hindu

The experts of the various countries say that Hinduism is the oldest religion in the world and is the ancestor of all religions. Svami Sivananda and Prof. Dr. Sarvapali Radhakrishnan said that the truth of all religions can be traced back to Hinduism. No

one can deny the truth of this statement. Unless scientists are tendentious would say that Hinduism is not the oldest religion, Hinduism perhaps even now that there does not exist. There are many Western scholars who praise and honor the Hindu religion, they say that Hinduism is a religion that is similar to the ocean of knowledge so Bleeker said. Hindu religion free from dogma Zaehner says. Existing mathematical science is not comparable to the Vedic mathematics says Morgan. Vedānta is a very scientific description about the nature's laws Heard says. Vedānta is an attempt to summarize all science so Walker opinion. Cosmic drama is the mind of God is symbolized by the dance Sivanatarāja in Hinduism, this opinion Fritjof Capra (science of Quantum Physics). Many theories of Vedantic which could be defended on a variety of research Chreighton says. Around the world there is no such sublime teachings and useful unless the Upaniṣads, let me die pillowed on the books of the Upaniṣads were the words of Schopenhauer. Daussen said that the teachings of the Upaniṣads is the teaching of philosophical conception that there is no peerless in the world (Donder, 2001:13-14, 2004:18-21).

The opinions above are not an apology, because this opinion is not coming from Hindus or Hindu scientist, this opinion is coming from non-Hindu scientists. Thus their opinions must be objective and credible and scientifically justified. Therefore it is very strange especially if there is no intellectual Hindus Hindu teachings blaspheme their own religion. Limited knowledge of the Vedas and the inability to understand the teachings of Hinduism derived of the Vedas can not be used as a weapon to blaspheme the Vedas. History shows that Hinduism is still around today because the Veda is *anādi-ananta* 'no beginning and no end'. This was enough historical facts used as evidence that Hinduism has a very strong survival power. Compared with contemporary religions with Hinduism, the other religions present just the name alone. Attack Islam and Christianity in India hundreds of years did not caused the majority of the Indian subcontinent Islam or Christianity, this fact will suffice to prove that Hindu theology can still survive in the court of the intellect.

## 2.4 The Ritual of Hindu

Hinduism can not get away with the rites, Hinduism is very strong even with the nickname as a Religious Ritual. The nickname was not bad, even better than the nickname of Religious Political or Religious Fanatic nickname. At a glance for most Hindus, especially the least understand the nature of the rite may be upset to hear the nickname of Hinduism as a religious ritual or religious ceremony. However, when traced back even further on the nature of ritual, and the nature of the teachings of Hinduism derived from the Vedas which consists of the four Vedas, namely *R̥gveda* (prayer), *Sāmaveda* (chants), *Yajurveda* (the victim), and the *Atharvaveda* (the phenomenon) it all really cored in the sense of ritual sacrifice to God (the essence of God). Surely prayer ritual too, sing the name of God is a ritual, the ritual of sacrifice, the proof of the energy of the universe that God-centered ritual also, the whole action is a ritual (Bhagavadgītā IX.27). Likewise Seminar for the real property is an academic ritual.



Misinterpretation of the concept of ritual performed by Hindus, is actually derived from the interpretation of the Western scientists who do not know the ins and outs of the ritual (*yajña*). Western scientists who focus on positivistic thinking only believe or accept something as true if it is real or can be proved by the senses. Western positivistic perspective, which is based on the real senses alone (*sakala*), it is only one side of the truth. Not so in the Hindu religion that accepted the concept of *Sakala* (according to the five senses), who also accepted the concept of something that *nisakala* (that intangible something). Perspective of Western scientists in the past the one-sided, incomplete, it is the only material knowledge. It is rooted in the materialistic character of *Kaliyuga*, the way is in accordance with the views of logical positivism. Perspective of logical positivism, make people feel very satisfied, if they can prove everything in the material (real). However, if scientists have the ability to a higher spiritual sense a little, which is an intelligence that can go beyond his ego, then surely the whole ritual of the Vedas will be proved by reason and scientific approach.

## 2.5 The Hindu's Teaching, Science, and Technology

Many scientists Hindu (in Indonesia), they view that religion in general and also includes Hindu Religion is unscientific. According to them, religion should not be discussed scientifically. This opinion is absolutely not true!. A person who is proficient in the field of religion but does not understand the basic principles of scientific knowledge, then he should not claim that religion is not scientific. The evidence suggests that the scientists of religion (especially religious scholars in Indonesia) is very far of the understanding the scientific nature of science, so they are difficult to analyze religion from the point of view of scientific knowledge. Inability to analyze a scientific religion, should not be used as a claim to say that religion is not scientific. If science is rational, then the religion (Hinduism) is super-rational. Therefore, if science can be approximated by the ratio (reason), then religion must be approached with the super-ratio. To link between religion and science, it takes knowledge of multidimensional (Donder, 2001:165, 2004:163).

Eastern scientists (Indonesia) most of the view that all knowledge, perceived unscientific if not cite the views of Western scientists. The results of the research scientist Hindu from India, especially from scientists Hindu Bali (Indonesia) is very difficult to be recognized as a source of scientific knowledge. In fact, if explored in depth, was based on the evidence of the historical development of science in this world, in fact many Western scientists are taking the source of knowledge from the East (India) and then take it and develop in the West. Based on historical records, the East is no more backward when compared with the Western world in the past, therefore there really is not anything too special with the Western world. However, just to meet with fondness the traditions of Western ideas, it has also begun discussions with the views of Emile Durkheim.

Durkheim (2003:28) a world-class scientists in the field of religion in his book *History of Religion*, explained: that no religion is not a cosmology and speculation about the divine. If philosophy, science emerged and evolved from religion, it is because religion itself was initially treated as a science and philosophy. Furthermore, and this is rarely mentioned, religion is not only enrich the human intellect that already exists by nature (congenital), but actually also has helped shape the intellect itself. Humans depend on the religion not only in terms of their knowledge of course content, but also in the form of a place where knowledge can be extracted. Furthermore, Durkheim (2003:49-50) describes a concept that is generally considered to be characteristic of everything that is religious is supernatural concept. Supernatural is the level of things that are beyond our comprehension; the supernatural is the world of mystery, which can not be known or that can not be captured and perceived common sense. Then religion becomes a kind of speculation on everything that exists outside of science or common sense in general.

According to Spencer, the religion whose teachings sometimes contradict each other, secretly agreed that the world with all its contents and all that surrounded him is a mystery that needs explanation. Spencer said that religion is basically a “belief in something beyond the Eternal intellect”. So also with Max Muller, he saw all religion as an attempt to understand what can not be understood and to express what can not be expressed, a desire for something that is not limited. Durkheim (2003:50) also outlines that without affordable, faith by itself has been matched with science and philosophy, and thinkers such as Pascal, who feel that there is something that is completely foreign in the particulars, should quarrel with the current day and time always be misunderstood by other thinkers of his contemporaries. Furthermore, Durkheim (2003:51) describes that with modern reason, we will find it hard to understand why people can attach themselves to these ideas just because they are not able to suggest ways that are more rational. In reality there are many explanations-explanations (proofs or explanations) are blinding us, but for the primitive even the simplest appears to be a problem in the world. Primitive people see it not as *Supra Rational*, a place where intellect leaned when stuck, but as the best way to know and understand what he observed around him. For him, it is not strange when inanimate objects ruled, either by voice or body movements, stop or speed up the circulation of the stars, ordered the rain to come down or stop, and others.

In his view, the rites which he did to increase soil fertility or the number of cattle that was maintained is not irrational, just as our view of the techniques that made agricultural experts for the same purpose today. The forces which he does not understand the various terms appear mysterious to him. The idea of the forces of nature may be derived from the idea of religious power, then there is no separation between the rational from the irrational.

There is a fact explained that the power of religion is often viewed as a spiritual entity. The desire that can not be realized, it is not admissible as evidence as an irrational.

The ratio does not deny the idea that inanimate objects can be moved in the order of mind or intellect, or also through a cue from one of the members of the human body, though the scientific knowledge of the past still have trouble receiving this hypothesis. However, recently the concept of the science of Quantum Physics have been able to accept this hypothesis.

To be able to mention certain facts as a supernatural fact, one must have an awareness that there must be order of things is natural or in other words, a phenomenon that occurs in the universe is internally associated with the laws on a basis of certainty. If at any time this principle established, then something out of these laws to immediately look for something that transcends nature and therefore outside of the ratio. Based on these reasons, the intervention of miracles and supernatural forces that propped up the ancient people to their gods is not something weird and miraculous from their perspective. For primitive peoples, this intervention is something beautiful, rare, or is the work of the invisible hand that shook, and the object of sense that makes people amazed and stunned (*mirabilia, miracula*). But the supernatural events and miracles are not viewed as a gateway into the world of mystery that can not be entered ratio.

Clusters of thought (mind-set) as it is more easily understood because it has not vanished. Although the principle of determinism (the view that human choice is controlled by the previous conditions, including the whole of human nature is an unbroken sequence of the cause and effect) was originally applied in the natural sciences and physics, but was introduced to the field of social sciences new century ago and its value is still kept under review. The idea that people become subject to the necessary laws and establish itself there is only one substance in a particular cluster of ideas. Therefore, according to a specific community, the real miracle is something that might happen. Science, not religion, has taught man that all of things are very complex and difficult to understand. But, according to Jevons, the human mind does not need to consider scientific education and realize that there is a clear sequence at once limited and constant order of succession among phenomena or to realize that these arrangements often become corrupt and chaotic. At a certain moment the sun suddenly suffered an eclipse; it did not rain during the rainy season, the moon appears regularly after a while lost in the night sky and so on. Because this series of events outside the normal sequence of events, people tie him to associate with causes that unusual, because a somewhat different, in other words "extra natural". In this form, by Jevon, the idea of the supernatural was actually born in the early history, and in a way and at this moment, finally getting religion itself as a specific object (Durkheim, 2003:54).

To understand the idea of the supernatural, not enough to simply being a witness to the events that are not expected such a magical thing and so on. Jevons claimed that the way to understand the religious forces such as these are not primitive. People are aware of and understand the religious forces in the first place is to explain the disorder and the events that are accidental, and only after that religion is used to explain the uniformity of the universe. There are many examples; there are certain hymns after

blown causing the water in the sky fell to earth. According to the science at first it was thought to have nothing to do with the gods that regulates it. The belief that these rites can produce what is expected to be automated, it is this which explains the importance of every cult because each time the carried out always involves physical aspects. This religious phenomenon (perhaps this is also the initial forms and legal formalism) arises from the fact that the spells to be spoken and movements to be performed will lose its value if it is not pronounced in the right way to spell exactly the same or a movement that had successfully brought outcomes (Durkheim, 2003:64-66).

## 2.6 Understanding the position of Agnihotra in the Hindu

*Agnihotra* rooted in the Vedas, so *Agnihotra* is often also referred to in English as a Vedic ritual or also called Vedic Fire Ceremony. *Mantram* X.66.8 Ṛgveda, clearly mention about Agnihotra ritual, also spells Atharvaveda I.1.7; 2.6; 4:33; 5:29; 6:35, 36, 49 and Atharvaveda II.7.29-30, 35, 65, 74, 87, 94, 113, 115; 8.3; other than that the book of Mānava Dharmaśāstra IV.10 and IV.24 Bhagavadgītā; XV.14; book of Rāmāyaṇa and *Mahābhārata* also contains about the *Agnihotra*, and many other sources as well as recognized by Jendra and Titib (1999), Wartawan and Wijaya (2011), and Vedalankar (2005).

*Agnihotra* called Vedic rituals or Vedic Fire Ceremony, it was very clearly demonstrated that the *Agnihotra* ritual comes from the Vedas. Literally, *Agnihotra* ritual was really found in *mantram* Vedic texts, in addition it is also present in various śloka in Hindu scriptures. Therefore, the Hindus as a people who accept the Vedas as a sacred text, would not be difficult to recognize and accept the *Agnihotra* as Hindu ritual, except the people who did lay on Vedic knowledge. Regardless of the attitude of the Hindus; accept it or not, as a ritual Vedic *Agnihotra* should be introduced or socialized to Hindus. Even now these non-Hindu scholars are heavily spread *Agnihotra* amazing results. It can be read through various internet websites. Introducing or disseminating the meaning and effect of positive energy rituals of *Agnihotra* is dharma for educated people, scientists, let alone the Hindu scholars. Instead, hide the nature and the positive effects of the *Agnihotra* ritual is an act of evil (*adharmā*) due to act stupid-as well as fooling the layman. Śloka III.26 Bhagavadgītā emphatically stated “let the people who are considered wise (scientist, scholar) fool the fools”. Therefore, whatever is in the Vedas including *Agnihotra* ritual, it is vital described, so that people know what and how the Hindu ritual of *Agnihotra* is. Moreover, the results of world-class research scientists have proven that the ritual of *Agnihotra* has the positive effect that can cure various diseases, even the most acute diseases. *Agnihotra* also gave a positive effect on the cosmic system (the universe). Dangers of global warming which causes depletion of the ozone layer can be dealt with *Agnihotra*.

Socialized the concept of *Agnihotra* to the Hindus, are considered very important not only because there is a perception of any kind, except; honor, save, and preserve the teachings of the Vedas. Before *Agnihotra* claimed by other parties and recognized as

his own, then we need to tell Hindus that *Agnihotra* is a Vedic ritual. It is important to avoid cases of the other party claims that can be harm Hindus. *Agnihotra* will soon be claimed by other parties if Hindus do not want to admit it. Vedic knowledge including the *Agnihotra* ritual, should not be forgotten or deliberately ignored by assuming that the *Agnihotra* does not exist. Or dispose of *Agnihotra* by reason that the majority of Hindus do not know *Agnihotra*. Vedic teachings, including the *Agnihotra* ritual should not be stagnation, because the consideration that many Hindus do not understand the *Agnihotra*. Ignorance, backwardness, commonness Hindus should not be a standard size or limit Hindu knowledge. Underdevelopment or backwardness and ignorance of Hindus should not be allowed. Everything was supposed to be a whip or a warning that the theology or the teaching of Hinduism is not well and properly socialized.

In an effort to socialize the Vedic knowledge including *Agnihotra* ritual, it takes people who are truly wise (intelligent academically, intellectualist), and not merely follow the flow of the crowd. A wise intellectuals, must have the courage to tell the truth without having to follow the opinion of many people who do not have a clear reference. This is very clearly present in the *śloka* of Mānava Dharmaśāstra XII.113-114, as described: “Even whatever a single Veda-knowing *Brāhmaṇa* shall determine as the law shall be accepted as such in exclusion of what has been said by ten thousand ignorant *Brāhmaṇas*. A council, consisting of thousands of assembled *Brāhmaṇas*, who are devoid of penances (*vratas*) and Vedic knowledge and live by the emblem of their caste, can never acquire the status of a true council” (Deshpande, 2010:832).

Based on the above explanation, it is known that the *Agnihotra* has a function and a very central position in the Hindu ritual system. Prof. Jendra and Titib (1999) states that *Agnihotra* as King of the ceremony that is multi-functional and very effective, because it can be used in all ceremonies.

## 2.7 The Essence of *Agnihotra* in the Hindu

*Agnihotra* is a ritual offering to the Lord Agni, a ceremony which is very important in Vedic performed daily by a *grhasthins* (Musna in Jendra, 1999:5). *Agnihotra* has a meaning that coincides with the term “*Homa*”, although not completely the same. Both terms are equally doing worship by means of fire as an offering, because it is so close together it means, the *Agnihotra* and *Homa* (*Agnihoma*) is often considered the same. The difference is very small and hardly distinguishable, because *Agnihotra* is basically. *Homa* is a ritual of salvation to the gods to pour the offerings to the sacred fire (Musna in Jendra, 1999:5). *Agnihotra* and *Homa* are both using sacred fire as a medium of worship, the difference is that in *Homa* offerings were addressed to the gods with the mediation of the sacred fire, while the *Agnihotra* sacrifice directed to the Lord Agni through the sacred fire as a material manifestation of the Lord Agni itself. In other words that the *Agnihotra*, that the Lord Agni is the goal or purpose of offering, while in the *Homa*, the Lord Agni as an intermediary to convey any form of application *yajamāna* ‘ceremony organizers’ (Jendra, 1999: 6).



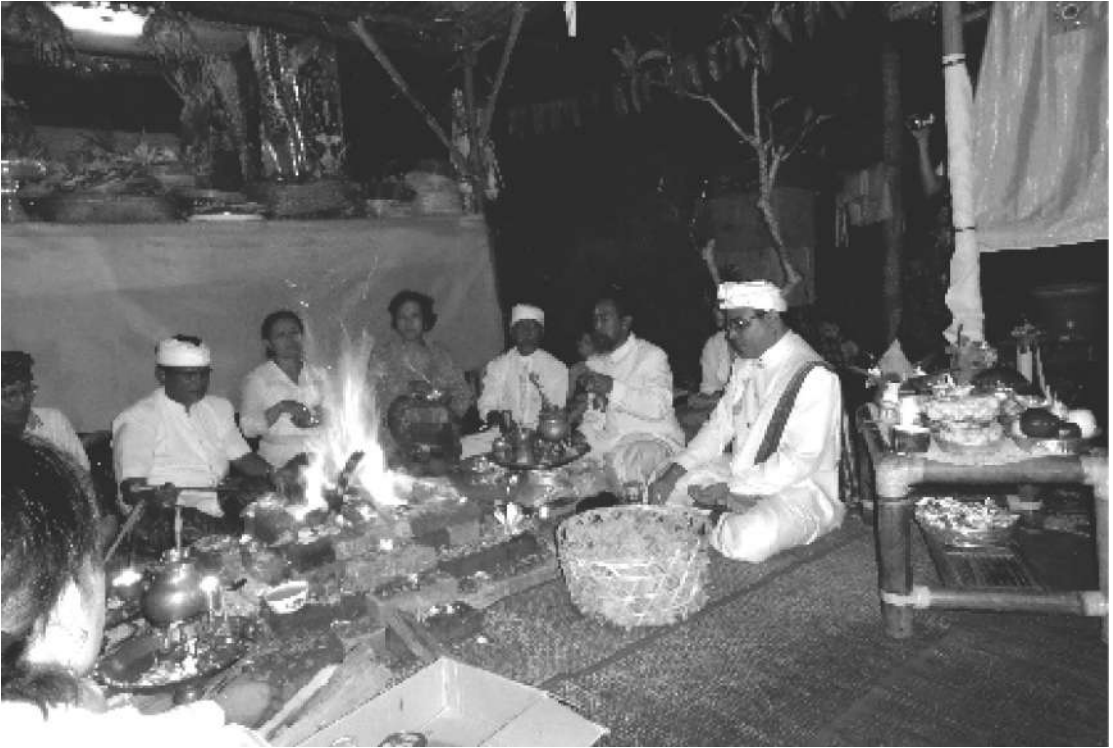


Figure 1: Prof. Dr. Subash Chandra Dash when attending Ritual of Agnihotra

All the ceremony that uses fire, *Agnihotra* is as essentially as described in the Vedas. *Agnihotra* is a Vedic ritual that is holistic not only meaningful religious-spiritual-magical, but it also deals with the things that has dimensions of science and technology, such as bio-energy, psychology, medicine, agriculture, bio-genetic, microbiology and communications inter-planet (Paranjape in Jendra, 1999:5). In various news sources, stated *Agnihotra* ritual has multiple functions, among others; psychotherapy, engineering bio-genetik, planologis, multi-therapy. There is information that thousands of people, mostly of the North America, South America, Western Europe and Eastern Europe, has a healing and other benefits of the *Agnihotra* or *Homa* therapy. There are many other benefits of *Agnihotra* was, among other ingredients that have been reduced to ashes in the fire that can be used as an offering; capsules, powders, creams, for therapy or treatment; sore ear, nose, throat (ENT), and others. *Agnihotra* ash can be fully utilized in a variety of problems, complaints, and various diseases. The conclusion is that; *Agnihotra* is a holistic approach to life and living, especially in the era of science and technology which has many negative impacts in the life of humans (Paranjape in Jendra, 1999: 42).

The story of King Ayodhya, namely the Daśaratha who lived in the time of *Tretāyuga*, have utilized the *Agnihotra* ceremony as a medium to invoke son. At that time, although Dasartha already had three wives, but not a wife to bear children. Hence

Daśaratha, begging Ṛṣi Resyasrengga as the kingdom priest, performing the ceremony *Agnihotra*. Iṣṭadevatā who is adored Lord Śiva, after performing the *Homa* ceremony, three wife, gave birth to sons of the wise; namely Kauśalyā Devi gave birth to Rāma deva, which became known as the *avatāra* of Viṣṇu. On the other hand Kaikeyī Devi, gave birth to Bhārata as “the greatest hero in the field of service”, because of his devotion to Śrī Rāma so great that Bhārata always uphold the sandals of Rāma, as a symbol that it acts only as a representative of Rāma. Then the third wife of Daśaratha’s sons who were born gallant, namely Lakṣmaṇa and Śatrughna, which later became the guardian of Śrī Rāma who has never been beaten. Lakṣmaṇa arc can make lightning or thunder and shook the three worlds (*Bhūh*, *Bhuvah*, and *Svah*), as well as arc Śatrughna who always managed to repel the enemies.

All the wise men were born, after Daśaratha perform of Agnihotra ceremony, that was evidence that all the gods of nature and Ruler of the Universe vibrates witnessed the effect the implementation of the Agnihotra ceremony. Similarly, the king of Madra who has many wives but have not had children, eventually, on the advice of a priest to perform Agnihotra ceremony. In the Agnihotra, the istadevatā is worshiped is Devi Sāvitrī, after the Agnihotra ritual, was born a daughter, who given named according to the name of the Sāvitrī istadevatā. Truly, *Agnihotra* is a ritual that must be implemented by all Hindus if Hindus still accept Mānava Dharmaśāstra as part of the source of Hindu law. Duty of every head of household (persons who are married) to perform *Agnihotra* or *Homa Yajña*, is clearly seen in the few *ślokas* of Mānava Dharmaśāstra III, as follows:

Libations of clarified butter duly cast in the sacrificial fire ascent to the sun; from the sun originates the rain; from the rain, do the provisions; and from the provisions, the creatures (76) (Deshpande, 2010:144).

Unto Agni, unto Soma, unto Agni and Soma combined, unto all the deities, unto Dhanvantari, unto Kuhu, unto Anumati, unto Prajāpati, unto the earth and firmament, and unto Sviṣṭakṛt at the en (85-86) (Deshpande, 2010:147).

Obeisance to Indra and obeisance to the attendants of Indra in the east, obeisance to Yama and obeisance to Varuṇa and obeisance to the attendants of Varuṇa in the west, and obeisance to Soma and obeisance to attendants of Soma in the north (87) (Deshpande, 2010:148). This *śloka* means, that: after the ceremony deliver to the food, he should spread the sacrifice, all over with at the start of the the East to the South, ie to Indra, Yama, Varuṇa, and Soma, as well as to His servants’ (Pudja, 1978:158).

“By showing the flavor and the words” honor the god Agni ’, he should spread a little food near the door and some in the water with an attitude of ”respect for

the water”, he also should be spread on the mortar and pestle by saying the word ‘respect for woody’ (88)

Based on the above *ślokas*, actually have reflected on what and for what, and how the function and position of the *Agnihotra* ritual in every Hindu family. Mānava Dharmasāstra III.85-86, clearly spell out that the offerings are made up of the nine kinds, addressed to various gods, Lord Agni was acquired respect and dedication of the first (Mānava Dharmasāstra III.85). Furthermore Lord Agni also get back the offering by the end of the ceremony (Mānava Dharmasāstra III.86). Through the above *ślokas* are understandable that Lord Agni is the god of determinants in the Hindu ritual procession.

Offerings are addressed to Agni, in his physical form presented to the fire, such offerings are commonly referred to as *Agnihotra*. To obtain a true understanding of *Agnihotra*, it takes a true understanding of the meaning of the word itself *Angihotra*. *Agnihotra* word derived from Sanskrit, which is composed of two words ie Agni and *hotra*. The word Agni means fire and said *hotra* means to sacrifice. Thus *Agnihotra* means make offerings to the fire. Offerings to the fire is contained in the symbolic meaning of Hindu philosophy and theology. In the Hindu scriptures described that fire is a symbol of god Agni, thus offering dedicated to the fire is essentially a make offerings to the god Agni. Purāṇas and Upaniṣads also outlines that if God is likened to the Cosmic Man, the flame is a symbol of God’s tongue. So logically if the offering was offered on the tongue of God then sacrifices must not stray. It is like a letter sent to someone, who can be sure that the mane is definitely up because the addressee has been very clear (Batan, TT: 3).

In addition to philosophical and theological reasons that make the physical form of the Hindu fire as a symbol of God’s tongue, as well as some other theological reasons which states that the god Agni himself, in the Veda is believed to be *purohita* or master of ceremonies. This is very clearly mentioned in the Ṛgveda, and even spells are listed at the very beginning of the book of the Ṛgveda. Whether deliberately or not the *Maharṣi* has put *mantram* offerings to the fire at the very beginning of the Ṛgveda. So that it can be seen as the head *mantram*, as the following description of the Ṛgveda:

*agnimiḷe purohitam  
yajñasya devam ṛtvijam  
hotāram ratnadhātamam ||*

(Ṛgveda I.1.1)

‘Oh Lord Agni, thou art the Reverend President, god executor of Yajña ceremony we worship Thee, Thou giver of grace in the main form of wealth’



*agnih pūrvebhir ṛṣibbhir  
idhayo nutanair uta  
sa devām ca vakṣati ||*

(Ṛgveda I.1.2)

‘Oh god Agni, thou adored by the main *Maharṣi* in the past, present and future. I hope you bring the gods at this ceremony’

Based on two Ṛgveda mantra as seen above, is very clearly outlined that Agni is the priest of the gods, Lord Agni also perform *yajña*, Lord Agni is also the giver of grace (Ṛgveda I.1.1). Through the *mantram* as mentioned above can be seen that Lord Agni is the leader of the gods in ceremonies (Ṛgveda I.1.2). When Lord Agni position as described in the rule of human nature, then the position of the Lord Agni can be equated with the minister of religious affairs office. If Lord Agni compared with Hindu religious organization in Indonesia assemblies (*Parisada Hindu Dharma Indonesia* = PHDI), the Lord Agni, is the same as the Chairman of the *Dharma Adhyakṣa* of PHDI. Therefore, associated with a ritual or ceremony, Lord Agni is the gods who is most responsible to the rituals, it were performed by the humans. In addition to the Ṛgveda *mantram* as stated above, there is also a book of spells in Sāmaveda, outlining that the god Agni also be offered, and at the same temple, as the following *mantra*:

*tvamagne yajñānām hotā visveṣām hitaḥ  
devebhirmanuṣe jane ||*

(Sāmaveda 1.1.1.2)

‘Oh Lord Agni, thou hast been in *Kuṇḍa* as *hotā* at each ceremony performed by the gods, as well as among all the human family’

Through the *mantram* Sāmaveda 1.1.1.2 as shown above it becomes clear that Lord Agni besides as *purohita* or ‘leader of the gods in the ceremony’, Lord Agni also as a place and offerings in the *yajña*. The description is reminiscent of the *Bhagavadgītā* that God is offering it’s own in the *yajña*. As stated;

*aham kratur aham yajñaḥ svadhāham aham auśadhā,  
mantra ‘ham aham evājyam aham agnir aham hutam ||*  
(*Bhagavadgītā IX.16*)

‘I am the ritual action, I am the sacrifice, I am the ancestral oblation, I am the (medicinal) herb, I am the (sacred) hymn, I am also the melted butter, I am the fire and I am the offering’ (Maswinara, 1997:311).

## 2.8 The Ultimate Reason of the Agnihotra in the Scientific Knowledge

What happens when the *Agnihotra* ceremony performed, so the ritual of *Agnihotra*, has major effect on the universe and human life in the world? Truly, what happened when the *Agnihotra* ceremony performed can be explained by the theory of Wave Mechanics or Quantum Physics. The Quantum physics considers that the basic principle of the universe and its contents is energy. Fundamental principles of quantum physics is in line with the Hindu view of the origin of the universe. Its explanation as follows: that at the time of *Agnihotra* ritual, there was a wave of reaction between sub-atomic particles, or reaction to a wave of inter-particle electron atom. How the Quantum Physics' principles consistent with the concept of Hinduism can be explained scientifically? Efforts to provide a complete explanation, it must first be described briefly the concepts of Quantum' Physics.

Mavinkurve et.al., (1998:167) described that in classical view, material is composed of unbreakable and unobservable particles, where each has mass, volume and weight and places a finite point in space at particular right time. All physical, stellar and planetary systems, rocks and trees, animal and human being that approximately denote a complicated arrangement of these unobservable particles, having continuity in space and time, as well as gives mutual influences pursuant to the firm stipulation laws. Therefore, the entire world according to classical knowledge poses the structure of atom and ray. The first contains particle and the second contains waves. The theory saying that material only has atoms as its building block, intensively loosed by the closure of the last century when Michael Faraday discovered that atom consists of electrical particles. Ernst Rutherford resuming this discovery found that atom is made from rotating electrons.

In 1900, Max Planck proposed his surprising theory, namely there is a finite basic stoppage in the energy exchange between one basic system and radiation of light and heat. He explained that radiation release of material; fragments of energy or energy package called "Quanta" explaining the name of this new theory revealing the mystery of atom.

Later, Rutherford in 1911 demonstrated his atomic model indicating that atom does not become solid or indivisible but contains spatial extensive 'region' in a small particle. The space in this atom is so great, equals to the mass of its particles (all exist in the atomic nucleus), there its electrons surround the nucleus, that according to him "looked like some flies in a vast church". Furthermore, in 1913 Niels Bohr emerged with his specific orbital model that later on strengthened this theory. In addition, in 1924, Louis de Broglie proposed his theory explaining the interaction between material and radiation formulated that an electron is not a particle, but a system of wave and particle wave. This proposition began the revolution of "realizing" material by breaking apart into basic elements having characteristic like such wave. That matter was soon realized that all basic particles could be interpreted as waves and as particle items. Two years later (1926), Erwin Schrodinger strengthened this "dualism" theory, integrated in

particle by giving it a mathematical form. He was immediately followed by Niels Bohr proposing the theory of Addition, that according to him every physical event could be interpreted in two different referential frameworks where each is exclusive to another, but also complete in the sense that both are required to provide the real illustration. Since only by placement in a line, such phenomenon can be entirely understood. Therefore, at the microscopic level, the illustration known from the objective world about solid material, as requirement that has been described above, that thing called as material should meet some criteria: 1) existing in space, 2) moving in time, 3) having mass and so forth, began to disappear where most do not become the requirement of an existence.

At the end, Werner Heisenberg with his renowned “Uncertainty Principle” became the final form of this theory. This theory states that impossibility for simultaneous determination of position and the speed of sub-atomic particle, if the accuracy of one of the particles is greater, so the uncertainty of the other is greater. The principle of Heisenberg on the uncertainty has strengthened the Addition theory of Bohr that finally drove into the background of confidence of classical scientists in the certain calculation and measurement on the phenomenon forming the particles on subatomic level. This theory then developed into Quantum Mechanics. The word “Quanta” as described previously meant “the quantity of energy appearing in bit or package, while “mechanics” states “the phenomena of movement”. Thus, Quantum Mechanics learns about character of “energy package” in material on the subatomic level.

Quantum Theory has become a research development on subatomic world, particularly to get reality underlying the material and all physical phenomena. As stated previously, that the basic reality about atom is that it is made from very small particles that also look like waves. Atomic nucleus containing all mass in atom is so tiny. Impossibility to visualize this last material denotes the main portrayal of the explanation on the atoms. Within the vibrating atoms, its electrons obtain compound to its atomic nucleus by rotating electrical power that surrounds it at extraordinary speed. On that account, electron and proton are described as thickening energy or protection energy. This opinion was supported by Einstein on the ability of material to change from energy to energy and material. Even the different types of particle can make atom—electron and proton as well as neutron—can change one another at several fantastic speeds, surrounding the axis of its shadow, and they can change to the entire energy of light.

Therefore, Modern Physics has restructured the solid disparity between material (as the real, dormant, and having mass) and energy (as the active, having no mass). Even, every idle object is considered as supply of energy in its mass (potential energy). That is why the scientists agreed to state that final arrangement of physical universe is energy. Due to this dynamic energy, from the space within the atom, the particles spontaneously appear and disappear again into nothingness at the same time. Disappearance of preceding particle was followed by the creation of the new one.

Therefore, heaven of the atom always shines due to ‘great event’ of a continued process of creation, preservation and dissolution of particles that are only visible as particular pattern of energy.

According to Quantum Physics, the waves of energy in the atom interacting to approach the speed of light (186,000 miles per second), obtains a density if the relative speed is slowed down, though they will remain to continue at abnormal high speed, approximately at 6,000-40,000 miles per second. It is the unimaginable high speed of the too small particles in the atom giving us the image of solid mass, “as the fast turning of propeller looking like a disc”. Therefore, the material appearance denotes the result of a sustainable process of the movement of interactional and interrelated energy’s wave, in the cycle of energy-material-energy taking place at extraordinary speed in the atom. Gary Zukov said that the world of subatomic physics poses the world of energy fragment that always dances by itself in the form of particles, twinkles, exists and does not exist, collide and disappear again. Therefore, it is only the activity of energy becoming the foundation of all living organism, giving unrestricted variations of arrangement and phenomena in this universe.

New perspective regarding to atom was proposed by Paul Dirac with relativity equation about “anti-material” formulation that is adjacent to “material” on all kinds of subatomic particles having positive, negative or neutral electrical charge and it also has opposing part that are really so, but opposing in several main cases, chiefly in terms of its charge. These articles with positive and negative charge keep on drawing each other among the particles, has been accurately explained as adhesive of the universe. Therefore, electron has something anti-electron with the same mass but their charges are different. Particle having positive charge, namely positron, shows the existence of symmetry between material and anti-material. If electron encounters with one positron, they mutually add their speed. Within this position, they disappear and at their place arise two positrons, as explained by Einstein, contain particles not waves. Therefore, the universe is composed of particle and anti-particle combining into consistent atoms to establish consistent molecules, making the materials consistent, that we observe around us. Continuous research about Quantum Mechanics into the mystery of energy, in the activity of atom has shown that whatever the characteristic of radiation, the number of radiation during one period of emission is always the same.

Einstein said that we could see material as composed of space of which field is very deep. There is no place on the type of New Physics, both field and material, because field is only a reality.” Quantum field that is currently visible as a basic unity denotes continuing media existing everywhere in the space. It overcomes the material made only from local condensation. The physicist W. Thirring said the field occurs everywhere and cannot be released. It is the cause of all phenomena. Existing and disappearing of the particles is only the form of field’s movement.

The *aṇu* and *paramāṇu* concept is very similar to the concept of atom and particle in Modern Physics. In the Upaniṣadhic scripture, *aṇu* is defined as *anytāvayavatvam*

*aṇutvam* namely the highest substance on the basic of any material phenomena that later on cannot be divided any longer. In the Vedānta, *aṇu* is related to the last reality, namely Brahman as the highest existence, the subtlest principle underlying and combining all manifestations of this universe. *Vedānta* also describes *aṇu* as the smallest manifestation of pure existence. *Aṇu* is also viewed as *Śakti* or subtle energy. That is why *aṇu* is called as *nitya*, *niravyaya*, *acintya*, and *divya* meaning immortal, partless, unthinkable, and self-enlightened. *Aṇu* as the essence of unlimited universe is described in *Chāndogya Upaniṣad* VI.14-3 as *eṣo 'nimā aitat ātmyam idam sarvam tat satyam* meaning it is the subtlest and smallest essence of consciousness making all objects and beings in this world have “itself”. It is the truth or reality.

Dynamic energy and interconnected activity and mutual influencing of the field, makes them into particles in atom beautifully symbolized in the concept *Śiva-Śakti* in Vedānta. As stated *sa Śiva Śambhuḥ vikāra rahitaḥ*, meaning *Śiva* is flawless reality; there the energy of cosmic consciousness lies silently. Similarly, there is an Upaniṣadic expression saying *sve mahimne svayam sthitvā svayam eva prakāśate*, meaning *Śiva* makes steady Himself on His own braveness, and shines Himself through His merriness. The word *Śiva* itself is defined in *Śvetāśvatara Upaniṣad* III.11 as *sarva bhūta guhāsayah sarva vyāpi, sarva yataḥ, tasmāt Śivaḥ* meaning, “He gets integrated to all elements and beings, He pervades everything, He becomes all of these, so that He is called *Śiva*. In the scripture, *Devī Bhāgavata* is stated that *Śakti* or energy denotes *sarva sakti upabhrata* meaning “the highest existence denoting the place of storing endless energy. The reason is *vistārya sarvam akhilam sad asad vikāram sandarśyakhilam puruṣāya kāle śaktivinaḥ vyavahatī puruṣopi asakto bambhanyate janani budhimatā janena*, meaning ‘all gross and subtle elements, and the entire universe are composed of it that continuously created by *Śakti* and showed to *Śiva*. At all object and phenomena, it is only *Śakti* manifesting and becoming the only reality covering the entire mini universe. Without *Śakti*, *Śiva* is unable and does not produce anything.’ On that account, *Śakti* or cosmic energy becomes creative principle. Roger Jones, a physicist, appreciates the *Śiva-Śakti* concept and he said that ‘the unity of *Śiva* denotes dynamic balance between the principle of causeless space (ether) and temporary principle’. Therefore, *Śiva* resolves Himself into energy metaphor — time — creation, is very clear. *Śakti* denotes feminism side of *Śiva*, constituting the principle of His active power providing the life on His intention and activities. *Śiva* is creative reality, constituting a guiding consciousness, while *Śakti* is His creative power or energy, which in the atom serves as final foundation of the universe. *Śiva* denotes an unchanged stable potential, while *Śakti* denotes kinetic creative power of movement and change that also occurs in the atom (parallel with all explained by Rau 2011).

So, pursuant to the physics and spirituality, every *aṇu* and *paramāṇu* vibrate with interaction activity and interconnects from the unity of energy principle (wave) and the unity of material principle (particle) that is responsible for continuous phenomena of creation — preservation — dissolution on all levels of manifestation and preserves

the continuity of universe. A beautiful description to describe more interestingly about the flow of continuous energy in the atom is the description about “a dance of particles” vibrating and its interaction shows many arrangement, rhythms and harmony. Different particles develop different patterns in its dance. Not only particle, but also the nothingness among them and in which they move play a role in this dance. Dr. Fritjof Capra said, even, the structure said to be stable, establishing the material universe, is no more stable but gets isolated in the rhythmical vibration (regular vibration). The entire universe is busy performing the dance of cosmic energy continuously. Today, scientists have progressively realized about the attractive phenomenon known as the dance of energy, cosmic dance or dance of creation and dissolution and so forth. In the wisdom of the Vedas is known a symbolic concept of *Śiva Naṭarāja* dance, providing us with description about ‘cosmic dance’ discovered by modern science.

All gods altogether surround and watch the dance of *Śiva* in creation — preservation — dissolution taking place since the very beginning up to indefinite time. Description on the dance of *Śiva* tells us about the greatness, beauty, rhythm, and melody, music and harmony, affection and cheerfulness in creation, experienced by those having profound understanding on the reality of cosmic consciousness that has embodied Him as the universe (Donder, 2009).

Other thinking in the Vedas discussing the nature of universal existence is the *puruṣa-prakṛti* or male-female concept. Both denote two antagonistic principles, but they are not in contradiction, but complete each other. The *puruṣa-prakṛti* concept is also often equalized to the *Śiva-Śakti* concept. Nevertheless, the *Śiva-Śakti* concept is considered more active in the interconnecting characteristic through mutual attraction from the two “opposing” characteristic and its arena actualizes the manifestation process of all material phenomena. In this matter, seemingly the *puruṣa-prakṛti* concept is pursuant to the material and anti material concept working on the level of sub atom of Quantum Physics. For instance, positive charge—positron and negative charge—electron can be parallelized to the male-female concept of *puruṣa-prakṛti* concept. As stated in the matter of sub atom of Quantum Physics, every particle is powerlessly drawn to its anti-particle, starting the condensation energy and engendering a particle-like substance, that because of it making the appearance of material on the micro level and because of it multiplies the material phenomena surround it.

Quantum Physics states that the appearance of material as solid mass caused by the continuous process of interaction movement and interconnection of energy waves in the atom, giving its density and it is the indefinite number of particles in the atom rotating at the speed of light resulting in “image” of solid mass. Equation of Max Planck states the possibility that a single quantum inside can have all energy of the universe. This formulation is found in Upaniṣad telling us that the Supreme Creator is present in balanced condition on every *aṇu* and *paramāṇu*. As the statement of Upaniṣad below: *Brahmāṇḍe api asti yat kiñca tat piṇḍe asti sarvatho* meaning, “all existing in the universe also occur in the smallest macrocosm’. Therefore, Vedānta or Upaniṣad also



formulate the universe as gross manifestation of the supreme creator, also strengthens the greatness of atom. Kathopaniṣad also states *aṅoraṅīyān mahato mahīyān* meaning “The truth or essence of all manifestations that are so large in number in the smallest phenomenon of the smallest, and so is in the largest phenomenon of the largest in this universe. Vedānta or Upaniṣad concludes that though atom is unobservable and unthinkable, but it denotes all real powers and potential of all universes. It is what Vedānta said about atom.

Furthermore, we encounter a concept of unlimited field, namely the scientific concept on the “field of energy” condensing on local point embodied into material. Meanwhile, in reality it is not limited, omnipresent, and in the Vedas is parallel to the *ākāśa* concept. Chāndogya Upaniṣad 1.9.1 describes: *sarvāṅi imāni bhūtāni ākāśād eva samutpadyante, ... ākāśaḥ parāyanam* ‘ meaning ‘all existences are created from *ākāśa*, *ākāśa* is the highest, *ākāśa* is the source and final basic of things and beings. This *ākāśa* concept, in the creative aspect and spatial concept, can be said to have found its echo in the theory of Quantum field through of Modern Physics.

Today, the discourses on the Quantum Physics are getting warmer and warmer because this science is progressively felt to solve various problems faced by human beings. According to the view of physical science, the universe is composed of molecules, atoms, vibrating sub atomic matters. These matters interacting mutually produce new matters and destroy other matters. Like a dance of cosmic energy (*Śiva Naṭarāja* or *Tāṇḍava*) with the rhythm of birth, life and death, these processes denote the main composers of all universes (Ācārya Cidananda Avandhuta in Wiyatmo, 2004:40). This concept is known as Quantum Physics developed by Albert Einstein, Niels Bohr and Werner Heisenberg in the mid of twentieth century. This theory mentions that this universe is not a mass of separated objects, but denotes a network of relationship between constituents or composing components of something single. Theory discussing about this matter is known as Wave Mechanics. Based on this theory, this universe poses an ocean of waves, and every physical material denotes a ripple of waves or a mass of waves. Modern physicists just could understand this matter in the recent years whereas the *tantric* yogi in India have found this matter, even understood it profoundly, thousands of years ago. Only few knowing that the experts of quantum physics owed many to the *tantric* spiritualists.

Science and spiritual are not opposing. On the contrary, they are supporting each other. When the physical theory is being more developed, it will be known that the theory of *yogic tantra* is in harmony with science that ultimately will be able to be proved through experiment in laboratory. There is a tantric scripture containing 64 Indian ancient texts explaining about “the sixth dimension of *sādhanā* (spiritual discipline). It contains how a spiritualist undertakes this “sixth dimension of *sādhanā* (spiritual discipline)” with his or her own consciousness could break down his physical body into energy of waves and then re-arrange them at other place pursuant to his desire. This exotic and extraordinary phenomenon can be logically explained by wave

mechanics in quantum physics. Everything is composed by waves and every object exudes waves. Our hand, face and entire body exude physical and psychic waves. Every being is composed of a mass of vibrations with particular density and intensity. Subtle momentum or subtle moving force behind these waves is gathered and stored in our mind. Every wave performs a movement, wave reacts and react towards other waves continuously, resulting in the dissolution and appearance of new sub atomic substances. So, total vibrations on an individual are determined by his personal wave flowing outwardly (*extrovertial flow*) and inwardly (*introvertial flow*). Today, the world is filled up by a large number of waves and overlap produced by several moment. Action and reaction of these waves make our mind be unable to unwind. These waves make us difficult to think or concentrate (Wiyatmo, 2004:40-43). Furthermore, Wiyatmo (2004:43-44) also describes:

Every human being has physical body, mind and spiritual potential. *Kīrtan* and chanting with universal mantra of *Bābā Nāma Kevalam* denotes a physical-psychic-spiritual activity because *kīrtan* provides benefits to the three items above. *Kīrtan* (chanting *mantra*) transmutes or changes the mental flow to spiritual flow. When one is chanting the *kīrtan*, a divine vibration will be produced and make the body and mind are ready to meditate. Various different impressions in the mind will gradually be transmuted toward the Supreme Subtleness. Similarly, *kīrtan* results in a transformation. *Kīrtan* is capable of changing the form, measure, mass and qualities of an object affected. *Kīrtan* produces electromagnetic field. Like a strong magnet, *kīrtan* will change the qualities of cerebral cells so that gross energy will be transformed into the form of subtle energy. Whatever we see when performing *kīrtan*, we only see God. The *Bābā Nāma Kevalam Mantra* gives energy to the air that we inhale and the earth touched by the fingers of our feet. Rhythm of *kīrtan* is supreme rhythm of this nature. Whoever performs *kīrtan* will feel universal rhythm through all of his *indriyas* (senses). This universal rhythm will not delete the gross ideas, but will shift its flow towards the subtle ones. If it is executed wholeheartedly, *kīrtan* is capable of strongly shifting the gross minds. *Kīrtan* will purify the mind and help perform meditation. Do not hinder the negative minds arising in the mind, but attempt to channel such minds to God by chanting *kīrtan*. If founding our mind is deeply involving in negative mind and our meditation is not satisfying, think: “Whatever happens is the best. No matter what lies inside “my-self”, good or bad, it is Yours”.

Thus is the description of Wiyatmo connecting the relationship of spiritual and science and in other part Wiyatmo (2004:59-60) also describes, that: All basic particles have symmetrical pair namely anti-particle. For example, electron pairs with positron, proton with anti-proton and so forth. When particle and anti-particle meet, they will be destroyed, and because of energy eternity of mass-energy, so it will release electromagnetic wave energy as annihilation process. Similar matters occurs for the contrary event, namely electromagnetic wave energy can be changed into particle pair of electron — positron and proton — anti proton, or in general it forms particle and anti-particle. In physics, this event is known as pair production.



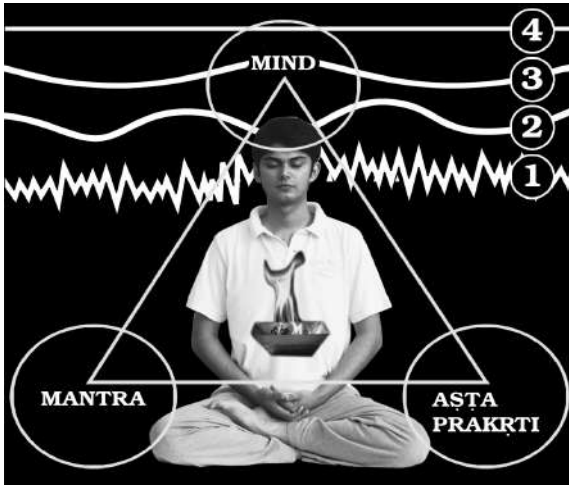
The phenomena above may happen because, in fact, mass and energy are equivalent. However, we may not forget that mass cannot be created from nothingness; it is required a number of energy to realize it. This matter provides a consciousness for us that in the creation of material form, it is required creation energy that if persistently investigated until its end, it originates from the Supreme Creator.

According to Quantum Theory, it is enabled for material or energy to be created from the nothingness in short period of time. Such probability phenomenon can happen based on the existence of uncertainty characteristic of nature in microscopic level as in the measurement of mass and energy. Such uncertainty principle does not violate or even destroy the law of eternity at all, because the material created re-unites and vanishes at that time. In this event, the average value of mass and energy combination is eternal. Based on the Quantum Theory above, the concept of yogic science and Hindu Cosmology, Ida Pandita Mpu Parama Daksa Natha Ratu Bagus very much enables to have the capability of moving the waves of particle. And then he changes them into the form of universal electron until such substance can take the form of orbs or etheric bubbles of universe that can be captured by particular type of camera, chiefly that of 10 Megapixel.

In accordance with the concepts of quantum physics, as described above, then the so-called miracles that occur when implementing *Agnihotra* ritual, is not really a magical thing contrary to the laws of nature. But the opposite can be said that the *Agnihotra* ritual is a ritual that involves the energy of God is behind every material universe. Western theologians think that monotheism is the final theology, belief systems which they called trust with the power of God (god) in each material as animism or dynamism. They consider animism and dynamism as a primitive belief held by people who are less intelligent. Instead, technologists and scientists today, believe that the energy as something universal, immanent and transcendent, it is indeed a modern form of animism and dynamism.

Therefore, it is no exaggeration if *Agnihotra* called a science and technology of pantheistic theology, which involves the use of energy of matter, energy immanent, and transcendent energy. This is what I often say in academic lectures on campus as a supra-rational ritual. For people who do not have the scientific knowledge, they may well argue that users of energy in the universe is expressed as the *Agnihotra* ritual or magical ritual black magic ritual. Such statements are not relevant to Quantum Physics raised in the present century.

*Agnihotra* could viewed as a science and spiritual practice, it means that it involves the use of material things are real, and also the use of the spiritual (not real because it could not be seen with the eye). All the material as a real object or as a spiritual, if incorporated into the *Agnihotra* fire could be burned. Spiritual, spirits are also afraid of fire, because it is controlled by the god of fire, that is god Agni. Position Agni among the gods is as *Purohita*, because it is highly respected by all the



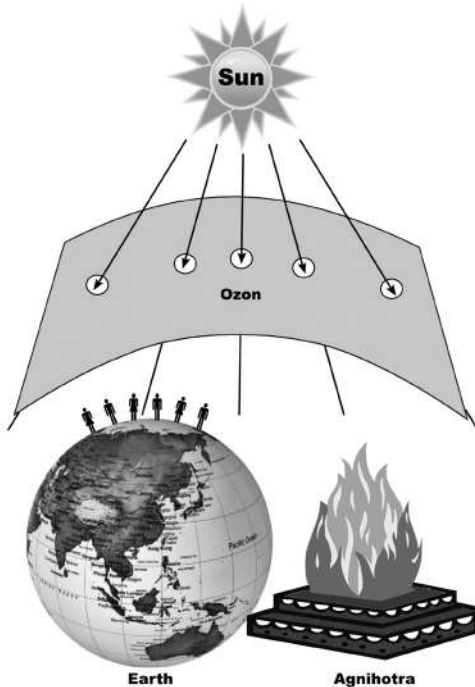
gods. Therefore, when the *Agnihotra* performed led by Agni himself, then all the gods and other spirits will be subject and obedient to follow. In the perspective of the concept of quantum physics, material and spiritual, both seen as energy, which is also equally emit respectively. Therefore, the implementation of the *Agnihotra* ritual, is precisely a form of high technology, which involves the use of wave energy materials, and also involves the use of a wave of spiritual energy. All materials,

equipment, and the people and the environment in which to do *Agnihotra* has been a wave of Central Energy Plant, Electrical Substation kind that can multiply and get the power in all directions. This could occur because the wave energy will propagate to the rest particle electron atom universe. That is the function and benefits of *Agnihotra*, which could propagate the wave energy that would make the reaction of electron waves at the level of atomic particles.

In the implementation of *Agnihotra*, everything turns into wave energy. All ritual tools that can physically be transformed into wave energy. At the time of execution of *Agnihotra* ritual; *Gantha* (bell), *Kirtan* (hymns), *japam* (repetition of the names of the devas or God), offerings of flowers, the seeds of offerings, and all the objects and activities, both physically and mentally it all boils down to one unit of energy waves. In psychologic, the mind is known as a wave whose frequency varies in accordance with his inner condition. Based on EEG measurements is known that the human mind can experience four different waves according to the state of mind. These four kinds of thought waves are: (1) wave *beta* ( $\beta$ ) the magnitude of 14-30 Hz, (2) wave *alpha* ( $\alpha$ ) the magnitude of 8-13 Hz, (3) wave *theta* ( $\theta$ ) the magnitude of 4-7 Hz, and (4) wave *delta* ( $\delta$ ) the magnitude of 0.5 -3 Hz (Donder, 2009).

In a state of mind is busy or not concentrated, then the thought waves will be in a position of *beta* ( $\beta$ ) frequency. Furthermore, the mind at the position of *beta* wave, it will be very difficult to focus, but if the mind is focused on *Kuṇḍa Agnihotra* fire, the fire's heat wave energy, physically will propagate and will do the super-position of the wave of thought. Likewise, when the eyes see a fire *Agnihotra*, nor the ear hear the sound of spells, and also hear the sound of the *gantha* priests, then the mind will function to super position with elements of *Agnihotra* ritual tools and materials. If a person is subject to the liver following the *Agnihotra* ritual, physical or mental spiritual thought waves will change from a position *beta* ( $\beta$ ) moves toward the *alpha* ( $\alpha$ ).

Only when the mind turns to wave wave lower, then the mind will could focused. Thought waves that reach the delta ( $\delta$ ) will have a level cosmic consciousness, this level is owned by the hermit saints, yogis, the *R̥ṣi*, and *avatāra*. That is why many saints are able to understand natural language, could speak with animals, plants, and inanimate objects. Many people can invite the rain, the rain refused, because their minds have reached the level of cosmic consciousness. No exception, all people can reach the level of cosmic consciousness, so long run a disciplined spiritual discipline. Without it, everything is just a fantasy. In an effort to achieve cosmic consciousness, then carry out the ritual of *Agnihotra* is a very good discipline because it is spiritual and the scientific and rationalistic.



Follow a disciplined and humble all the stages of the process of *Agnihotra* correctly, could make the human mind is conditioned to have the emission of brain waves, which is in harmony with the cosmic wave. When the vibrations of the human brain equivalent to the cosmic waves, the human being as part of the cosmic, as well as a regulator or a cosmic ruler itself. In other words that the man who has a vibrational wave equivalent to a wave of cosmic mind, the man like that has changed the status of an advanced Deva or God himself. Such people will could command nature in accordance with her wishes. From one of the *Agnihotra*

ritual aspect it can be seen that such a large function of the *Agnihotra*. which could create harmony between *Microcosmos* and *macrocosmos*.

Scientificity evidence of the effects of *Agnihotra* has been proven by many scientists in the laboratory, as can be read on the internet. A website on the internet stating that the results of his research has proven that *Agnihotra* ash can influence the earth's atmosphere and ozone layer depletion could overcome.

On one website, <http://www.indiansonnet.com/agnihotra.htm>, provide a list of websites and a list of therapists *Agnihotra*. From the website it could be known many things about *Agnihotra*, that is ash can be made as many things and could be used for some kind of need, namely: *Agnihotra* Powder, *Agnihotra* Capsules, *Agnihotra* Ointment, *Agnihotra* Cream, *Agnihotra* Eye Drops, *Agnihotra* Inhalation, Psychotherapy, Agriculture, Environment, Medicine, etc. In addition, through a website

that can be understood as convincingly about *Agnihotra* has been formulated into the language of science that can be received by the logic of the mind, such as the following descriptions.

Agni or fire is an expression of universal power or energy on an understandable human level. Fire and its *Śakti* (power) are inseparable. Hence, this fire is the expression of the Almighty that any human being can relate to or understand. It is meant for all mankind. Any being that has the ability of speech can perform *Agnihotra*. Every human being has a birthright to seek salvation and *Agnihotra* is the first step. Happiness is an activity or projection of each one's mind. Hence, this self perception of happiness becomes one's own reality; however, the Truth, may be far different. Thus, the perceived happiness is merely a play of the mind.

To understand the total well being of any person, the mind has to be addressed. The mind and *prāṇa* (breath) are inseparable just as two sides of a coin. *Agnihotra* impacts both mind and breath. *Agnihotra* gives the mind a sense of genuine contentment and ability to react with Love. *Agnihotra* helps replace self-serving love with love that is unconditional without judgment or qualifications. The first step of this journey towards Joy is *Agnihotra*. Thousands of people all over the world have experienced that *Agnihotra* reduced stress, leads to greater clarity of thought, improves overall health, gives one increased energy, and makes the mind more full of love.

The ancient science of medicine given in Vedas (*Āyurveda*) states that *Agnihotra* atmosphere and *Agnihotra* ash are medicinal. One German pharmacist, Monika Koch, has conducted research on medicines based on *Agnihotra* ash. People from all over the world have used these medicines successfully to treat a wide range of ailments. To prepare *Agnihotra* medicines, first perform *Agnihotra* regularly using the disciplines mentioned in the book "Light Towards Divine Path," by Vasant V. Paranjpe. This is done to ensure the unique potency which lies within the ashes of the *Agnihotra* fire. This ash is the basic substance necessary for preparation of all *Agnihotra* medicines.

The ashes of *Agnihotra* fire have the pharmaceutical name "*Agnihotra* Usta" (Latin: *usta* - burnt). To use *Agnihotra* Usta pharmaceutically, powder the ash and then sift it through a fine mesh. The result is *Agnihotra* powder. *Agnihotra* creates a powerful healing atmosphere which is conducive to removal of stress and tension from the mind. Our minds are also susceptible to negative thought patterns which pervade the whole atmosphere now. *Agnihotra* creates a magnetic-like field which neutralises these negative patterns and reinforces positive ones. *Agnihotra* injects into the atmosphere subtle particles which, for want of a better description, we can call particles of Love. Anger and greed become reduced and emotional cycles are ironed out. *Agnihotra* and *Homa* Therapy can be used in conjunction with any drug/alcohol de-addiction program to increase motivation to break the addiction.

*Agnihotra* and *Homa* Therapy may be added to any organic farming practices to grow large quantities of food in a small areas without the need for chemical fertilisers, insecticides, pesticides, herbicides. In *Yajña* atmosphere plant structure and physiology

are strengthened, improving growth and reproduction cycles by allowing easier movement of water and nutrients to all parts of the plant. Fruit trees will yield fruit double the usual size with twice the meat. Soil holds moisture better. Round-the-clock *Homa* is an effective aid to insect control.

*Yajña* replenishes the nutrients that pollution robs from our environment. *Agnihotra* neutralises pathogenic and parasitic bacteria. *Agnihotra* gathers particles of harmful radiation in the atmosphere and, on a very subtle level, neutralises their radioactive effect. *Yajña* leads to better absorption of sun's rays by the water resources on the planet. *Agnihotra* purifies contaminated water resources. *Yajña* neutralises radioactivity and noxious gases released from the bowels of the earth. *Agnihotra* purifies the air we breathe by removal of toxins from the atmosphere. *Yajña* seed the clouds providing nutritional rain. *Yajñas* can patch up the ozone filter damage by pollution. Science of *Āyurveda* describes use of *Agnihotra* atmosphere and *Agnihotra* ash for prevention cure of disease in humans, animals and plants. Seceral preparations can be made from powdered *Agnihotra* ash. These have been used all over the world to treat a wide variety of ailments.

In addition to reports from the laboratory as shown on the website, there are many reports of the Hindu community who assiduously perform *Agnihotra*. They reported many things "that might not be possible" after they perform *Agnihotra*. As reported by the Ashram Ratu Bagus, that any implementation of *Agnihotra*, the Orb came in the form of a beautiful and varied.



Figure 2: Photo *Agnihotra* at the International Yoga Festival April 13-15, implemented shortly after the *Agnihotra* look at the Air Orbs shots from a Digital Camera 12 Megapixel qualification.



Donder (2009) one Balinese scholar lecturer in Denpasar State of Hindu Dharma Institute, teach subject of Hindu Cosmology give a research report about the Orbs. Its research report conclude that the Orbs are dust particles with the cosmic consciousness in which Lord Śiva is in it and make the electron-atom of each dust was joyous dancing. *Agnihotra* can optimize the electron dance.

The number of outstanding and unique phenomenon arises when people do *Agnihotra*. Therefore, every member of society perform *Agnihotra*, many people want to take pictures that are around the ceremony. When Ratu Bagus sitting in front of the *Kuṇḍa Agnihotra* for meditation, a sudden fire in *Kuṇḍa* change shape resembles the shape of a large dragon with a neck stood up as the fire that would like to speak with Ratu Bagus. In the view of ordinary scientific level, this phenomenon may be regarded as fortuitous events. But in the language of Spiritual Science, the phenomenon is accepted as a form of cosmic consciousness displayed by the fire as proof of a divine consciousness that exists in the fire have been blessed and be a witness to human action.



Figure 3: Ratu Bagus, sitting in meditation in front of the *Kuṇḍa* of *Agnihotra* and large fire in the shape of a dragon that would like to speak with Ratu Bagus

### III. CONCLUSION

In accordance with the subject of this article are supported by references from various sources in the form of the experience of people, books, and the results of research, it is known that the Hindu ritual of *Agnihotra* is derived from the Vedas. However, Hindus in Bali do not know most of the implication of *Agnihotra*, so impressed refuse *Agnihotra*. But on the contrary, many Westerners are in fact non-Hindu has to understand and implement the *Agnihotra*.

In the West, *Agnihotra* developed by experts, because the results of their research have shown that the *Agnihotra* has the functions and benefits that are consistent with the view of science and technology. It seems somewhat ironic that Hindus in Bali have a lot of scientists, but it's very rare that seeks to provide scientific interpretation of Hinduism. Hence Hindu scientists have lost a step with Western scientists, which has implications for the whole Hindu people. As can be read on the internet sites, it is stated that *Agnihotra* is a universal ritual belongs to all mankind.

The statement indirectly indicate that the *Agnihotra* not only belong to the Hindu, but for the humanity. *Agnihotra* has the same fate with Urine Therapy Yoga. Although it sounds funny, but it could be evident that the Hindu religion with its Vedic, can be applied by all mankind. It is also a proof that Hinduism is *Sanātana Dharma* 'Eternal Truths', which is able to cross all religions.

Various researches and direct experiences of the people who have been carrying out *Agnihotra* ritual, proves that *Agnihotra* is increasingly demonstrated remarkable functions. *Agnihotra* is proven to give the effect of psychological energy to the earth or the universe and its contents. The clouds moved away from the ceremony, as expected, the cool air comes as expected, the rain comes as expected, the sky is very bright at night and Orbs scattered implemented shortly after *Agnihotra*. All of this phenomenon in view of Hindu theology proves that there is a relationship between the human psyche as the microcosmic and the universe as macrocosm, so does the relationship with God as the ruler of the universe.

This is the kind of analysis that can prove the existence of psycho-cosmic relationship between the three subjects: human - nature - and manifestation of God, and for that *Agnihotra* is the instrument. *Agnihotra* has provided many solutions to people to overcome various difficulties. Physical illness, mental, spiritual human experience can be overcome by *Agnihotra*. Even *Agnihotra* otherwise is able to cure this ailing world, provided that the conditions would carry it out. Hopefully by knowing the function and efficacy of this *Agnihotra*, Hindus rush to get it started again to keep up with strangers.

It is very important that can immediately recognize the benefits, efficacy and the miracle of *Agnihotra* is the Bhopal tragedy, as reported by the electronic media and newspapers are as follows: <http://curezone.com/forums/fm.asp>, described that the tragic incident occurred on the night of December 3, 1984 when the poisonous MIC gas leaked from Union Carbide factory at Bhopal.

Hundreds of people died and thousands were hospitalized but there were two families – those of Shri Sohan Lal S Khushwaha and Shri M.L. Rathore, living about one mile away from the plant who came out unscathed. These families were regularly performing *Agnihotra* (havan). In these families nobody died, nobody was even hospitalized despite being present in the area worst affected by the leakage of the toxic gas. This observation implies that *Agnihotra* is a proven antidote to pollution. (English Daily-“The Hindu’ of 4-5-85; news item under the heading ‘Vedic Way to Beat Pollution’.)

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