

## Scientific Theory of Propagation of Light and Sound (Word) in Sanskrit Literature

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### Abstract

Modern scientific theory of propagation of light and sound (word) is the most important theory under the wave system in modern physics. According to this theory light and sound (word) propagate one place to other on the basis of their own frequencies. The frequency of light is far-Thousands of million and billion hertz in a second than sound. That is why light comes first than sound (Word). Above mentioned characteristics regarding light and sound have been observed firstly by a Dutch physicist Cristian Huygens. That very observation regarding the characteristics of light and sound (word) especially their propagation became the base and aim (achievement) among next coming generation and among them, in fact, after a long time, Thomas Young and Fresnel became the heroes of this goal. Both (physicist) scientists experimented the realities of the observed and after much satisfaction made a solid theory upon it established by the name "the theory of propagation of light and sound." The oldest literature of the world, in Sanskrit (literature) also there is a deep concern upon light and sound (word) and this has been much discussed. Not only the origin and characteristics of scientific light and sound but also especially their travelling from the sun to the earth. Related to this, there are several examples in old Sanskrit literature. In Rigveda Samhita there are separate suktas like savitr and vac (sound) has been deeply discussed. Yati devah savita paravatah means the light of the sun comes from haven to the earth. Also in many branches of modern Sanskrit literature there are special attentions especially on travelling of light and sound (word) and by their different opinions rise so many important themes that are impossible even now in modern physics theory. Propagation of light and sound, this theory became weak in the eyes of Sanskrit literature which needs much and more modifications.

**Keywords:** Light and Sound etc.

### Introduction

In modern physicist wave-system there is the most needful and important theory. "Theory of propagation of light and sound". According to this theory light and sound propagate one place to other on the basis of their own separate frequencies. The frequency of light is far thousands of million and billion hertz time in a second whereas sound's frequency is less than that. That is the reason light comes in our eyes first than sound (word). In the scientific views, intense form of energy breaks with sounds due to fission of elements and in a short time it began to spark.

These types of natural phenomena's have been firstly observed by a Dutch physicist, Cristian Huygens in 1678 A.D. That very observation regarding not only the characteristics of light and sound (word) but especially their propagation became the achievements of their coming next generations. Among them Thomas Young and Fresnel the famous physicists came in light who made this the goal of their lives. Thomas young in 1801 A.D. and Fresnel in 1827 A.D. respectively experimented the

observation for Cristian Huygens and after fully satisfaction the theory propagation of light and sound" came in shape in the field of modern physics.

Thousands and thousands of years ago such observation have been located by our ancestors also and in due course of time they have taken places in the oldest literature of the world, Sanskrit Vedic Samhita. According to this very treasury of knowledge we could make our minds that ancestors had observed not only the origin and scientific characteristics of present natural phenomena but also their base, the situations, causes as well as especially the movements of light and sound (word).

Firstly, Sanskrit literature avoids the word propagation in naming this theory. The word sanchalan in Sanskrit is parallel to the modern scientific propagation word. Grammatical point of view samyaka chalati anena yat tat sanchalanam. On the basis of this grammatical analysis it means by which one can travel but in the range of light and sound it is impossible, light and sound have no capacities to walk, as well as propagate one place to other. Because the meaning of chal dhatu is to move with

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changing of place where as moving in light and sound need not be changing of place. Therefore from Rigveda Samhita to modern Sanskrit lakshan as well as lakshya literature, in the sense of moving of light and sound, "ya dhatu is fully applicable-use of chala dhatu.

1. Cacala bala stana bhinna balkala.
2. Calati ekena padena tishtatīyēkana budhimana.
3. Padat padamapi calitum nosaknoti.

Use of Ya Dhatu

1. Yayou tadiya mabalambya a cngulim.
2. Yatas tavapi caviveka
3. Bhgaya kramena hi dhanai bhawanti yanti.

In Rigveda Samhita savitr sukta-devah yati savita prabatah in the sense of moving of the sun light ya dhatu is the appropriate use, because it is moving without change of place.

In addition to this, there are several opinions in Sanskrit literature by which it has been already cleared that sound is the light. Sound is a quality and energy. It does not have capacity to do a work or moving one place to other. So sound is work and object less.

In Sanskrit philosophical literature there are so many solution regarding the movements of light and sound. In this regard vaiseshic sutra, naiyayikaspra bhasyakars and bhdist have been specially discussed upon it and have made authentic solution too.

Acharya Kanand in his vaiseshika sutra with the help of a theory parisesyat gunatwam states that sound will move on the basis of vicitarang kadamb korak or sabadasantan on that ground by which sea produces one wave after other. This way sound also prepares one after other uncountable waves. Naiyayikas are also with this proposal there for according to vaiseshika and naiyayika sabda santan system is approvable.

1. Taditham sabda santan swikaryah sa ca vicitrang a nyeyana kadamba korak nyayena va sabda ntrangam utpad yatiti sabdachabdanispatih

In Sanskrit bhasya literature modern scientific word propagation has been used but they gave the solutions. In sabarbhasya about 200 A.D. vatsyana bhasya about 300 A.D. and prasasta pad bhasya about 400 A.D. origin and propagation of sound has been narrated in prasasta pada bhasya. It has been clearly mentioned that (word) sound propagates in accordance with theory of sea waves vici santanvat sabda santan. Later in about 8<sup>th</sup> century A.D. a Buddhist logician dharmottara has (for the first time) mentioned in his nyaya vindutika that the light travels from one place to the other like a wave of water-tatraloko gatih dharm kramena jala tarang nyayena desam akramana.

## Conclusion

On the basis of the observations regarding the theory, theory of propagation of light and sound (word) in the vast branches of the oldest literature of the world Sanskrit many useful, important and needful opinions have aroused which are beneficial not for the above mentioned Sanskrit branches but also appears as a light in the eyes of physicist and the eyes of its scientists.

Firstly, a solid idea has come in my mind that which natural behaviors have been observed and experimented by the modern physicist in 19<sup>th</sup> century which had already been done easily by our ancestors in their daily routine.

Again we can say that light and sound are two separate elements in modern science but in Sanskrit literature it is one. The Upanisada along with yagyavalkya smrti. "Vagevayam jyotisaste-Vagevayam jyotisah"

Huge amount of heat converts into sound (word) and it began to sparks "tejomayah san vac." Vac is the similar to sound. The origin (source) of sound means the dhvani in brhadaranyako-panisada it has been stated that vac is the sabda i:e: the sabda i.e sound-kasca sabdo vageva sa.

So, sabda means sound (word) is a quality of energy huge heated atom converts into vayu means wave that is why it has been stated in the version of Nagesa bhatta and uvattacarya, bayuatmakah sabdah vayoh vivartah sabdah.

Acharya nageshbhatta has stated in his muktavali "that sabda means sound is a quality of an energy. It is not an energy at all but a quality of space. Akasasya tu vigyeyah sabdah vaiseshiko gunah. Not only that there are so many opinions regarding sound that it is a quality of matter.

- a. Gandhadi saha vrtti dravyesusannivistah gandhadvasthitobhiviyakti dharmakash itypare.
- b. Akasa gunah sabdo vibhu nityo vbyakti dharmakah
- c. Akasa gunah sabdah utpatti dharmko buddhiat
- d. Mahabhuta Samksohbhajah sabdo anasrita utpatti dharmko nirodh dharmakah in this position where sabda (sound) is a kind of quality not a matter, that is impossibility any work and object in it.

Yatah draveye hi anekadravyo-padankata sarvataraca siddhah napi karm-karma sadhyam na vidyate.

Hence according to Sanskrit literature, there is no possibility of work processing in some large matters as mentioned in the philosophical ideas.

Kim ca vbhu padarthesu kila kala kasatmadiksukriya navidyate iti sarve siddhanath.

Hence, to summarize, we can say clearly that production of sabda by sabd depends only upon sabda santan by which sabad will produce one after another sabdas. The similar case can be seen in the Rigveda nasdiya sukta. The sun light cover this universe all together at a glance-Yatha suryah rasmih (light) udyanatram nimesmatrna sarvam jagat vyapnoti.

In this way the light and sound are in static stage and there is no provision of their propagation. They cannot move one place to other so, in the theory,"propagation of

light and sound (word), propagation is lacking some modifications. It needs modification in its name.

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