Assessment of effect of medhavardhansukta mentioned in atharvaveda in swastha individuals

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Tilak Maharashtra Vidyapeeth, Pune

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In Samhita Subject

Under the board of Ayurveda studies

Submitted by
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Under the guidance of
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Certificate

This is to certify that the thesis entitled 'Assessment of effect of Medhavardhan Sukta mentioned in Atharvaveda in Swastha individuals' is a genuine & bonafide work Prepared by Vd Akshar Ashok Kulkarni under my guidance & supervision. The research report has been submitted to Tilak Maharashtra Vidyapeeth, Pune in fulfilment of the degree of the Doctor of Philosophy.

To the best of my knowledge & belief, the matter presented in this thesis has not been submitted earlier for the award of degree of Doctor of Philosophy of Tilak Maharashtra Vidyapeeth, Pune.

Place: Pune

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Declaration

I, the undersigned, hereby declare that the thesis entitled 'Assessment of effect of Medhavardhan Sukta mentioned in Atharvaveda in Swastha individuals' is a genuine & bonafide work Prepared by me under the guidance of Dr Abhijit H. Joshi & submitted to Tilak Maharashtra Vidyapeeth, Pune for the award of the degree of the Doctor of Philosophy.

The present research work is original & the conclusions drawn there in are based on data collected by myself. To the best of my knowledge & belief, the matter presented in this research has not been submitted earlier for the award of degree of Doctor of Philosophy of Tilak Maharashtra Vidyapeeth, Pune.

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॥ श्री गणेशाय नमः ॥

On the occasion of submission of my thesis, I offer my Pranama to Bhagwan Dhanwantari.

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Vd. Akshar Ashok Kulkarni

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Introduction

The Veda are a large body of texts instigating in ancient India. Composed in Vedic Sanskrit, the texts constitute the oldest layer of Sanskrit literature and the oldest scriptures. It is considered that the Vedas are *Apauruṣeya* ("not of human agency"). They are supposed to have been directly revealed, and thus are called *śruti* ("what is heard"), distinguishing them from other religious texts, which are called *smṛti* ("what is remembered"). In Hindu tradition, the creation of Vedas is credited to Brahma. The Vedic texts or śruti are organized around four canonical collections of metrical material known as *Saṃhitā*s, of which the first three are related to the performance of yajna (sacrifice) in historical Vedic religion:

- The Rigveda, containing hymns to be recited by the hotar, or presiding priest;
- The Yajurveda, containing formulas to be recited by the adhvaryu or officiating priest;
- The Samaveda, containing formulas to be sung by the udgatar or priest that chants;
- The Atharvaveda, a collection of spells and incantations, apotropaic charms and speculative hymns.

The individual verses contained in these compilations are known as *mantras*. Some selected Vedic mantras are still recited at prayers, religious functions and other auspicious occasions in contemporary Hinduism.

The various Indian philosophies and sects have taken differing positions on the Vedas. Schools of Indian philosophy which cite the Vedas as their scriptural authority are classified as "orthodox" (āstika).

Chikitsa has three aspects; viz. Daivavyapashraya, Yuktivyapashraya & Satvavajaya. Yuktivyapashraya Chikitsa is offered on large scale. But Daivavyapashraya, though it is mentioned first is rarely advised. Bruhattrayi clearly indicate the forms of Daivavyapashraya Chikitsa as 'Atharvavihita Shanti'.

Veda are the icon of affluent Indian heritage. Ayurveda is Upaveda of Atharvaveda. Ayurveda offers not only the treatment to the diseased individual but also remedies for the upgrading present healthy status. Here is an attempt to execute the Daivavyapashraya

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effect of 'Medhavardhana Sukta' from the 6th Kanda of Atharvaveda on healthy individuals.

Study rationale

- Reveal the importance of application of Daivavyapashraya Chikitsa.
- To highlight the importance of Vedic literature.

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Aim -

To establish the utility of Medhavardhan Sukta mentioned in Atharvaveda in the improvement of Medha in Swastha individuals.

Objectives -

- To study Mantraviniyoga paddhati of Medhavardhan Sukta mentioned in Atharvaveda.

- To assess the effect of Medhavardhan Sukta with respect to improvement of Medha as the concept mentioned in Ayurveda.

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Material and method -

Place of work - college & hospital of our institute

Sample size – 200

Group A: Medhavardhan Sukta = 100

Group B: Naradiya Ganesha Stotra = 100

Duration: 3 months

Time of Pathana: morning.

Sampling - random sampling

Cognitive test: Binet Kamat Test (BKT)

Inclusion criteria -

Apparently healthy individuals

Age - between 18 to 25 years

Gender - either

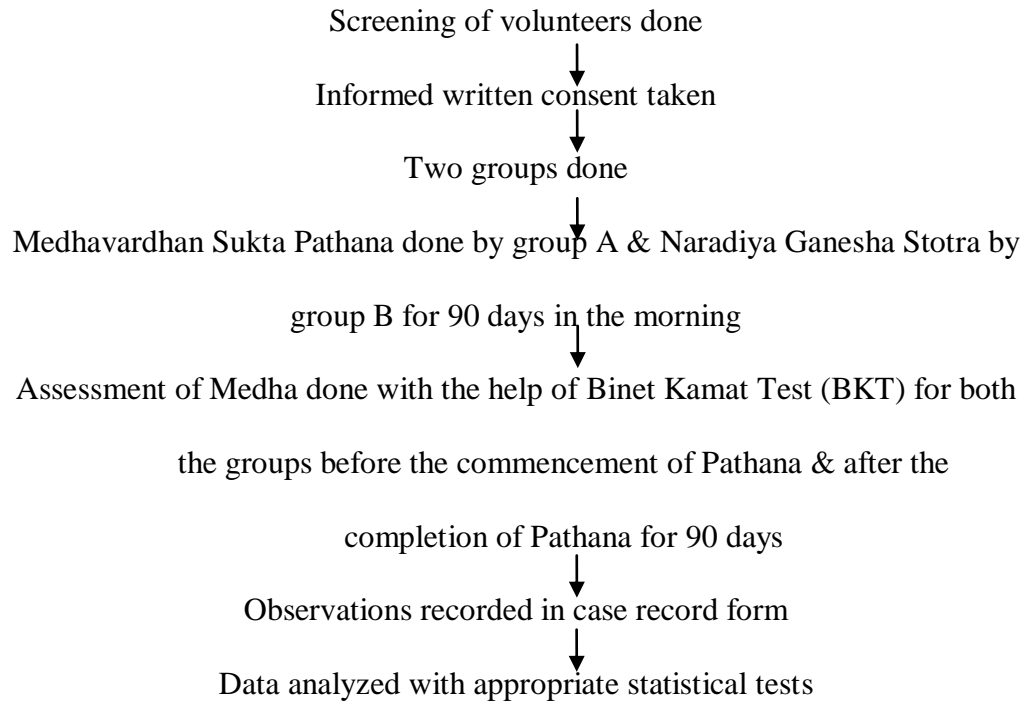Individuals having knowledge of Sanskrit.

(Individuals having Sanskrit subject at 10th standard were selected.)

Exclusion criteria -

Vyadhita individuals

Pregnancy

Study design

Screening of volunteers done

↓

Informed written consent taken

↓

Two groups done

↓

Medhavardhan Sukta Pathana done by group A & Naradiya Ganesha Stotra by group B for 90 days in the morning

↓

Assessment of Medha done with the help of Binet Kamat Test (BKT) for both the groups before the commencement of Pathana & after the completion of Pathana for 90 days

↓

Observations recorded in case record form

↓

Data analyzed with appropriate statistical tests

(**Wilcoxon signed test** was used to analyze data within the group for comparison of intelligent quotient before & after Mantra chanting. And **Mann-Whitney test** was used to analyze data for comparison of increase in intelligent quotient between two groups.)

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Review of literature

Review is done under following heads

- Review on Vedas
- Review on Medha & Medhavardhan Sukta & Naradiya Ganesha Stotra
- Review on Mantraviniyoga Paddhati
- Review on intelligence
- Review on Binet Kamath Test

Review on Vedas

Review on Vedas is done under following points

Sr No	Particulars
1.	Origin and meaning of '*Veda*'
2.	Founder of Vedas
3.	The time of origin of the Vedas
4.	Objectives of Vedas
5.	Importance of Vedas
6.	Structure of the Vedas
7.	Shruti Literature
8.	Rigveda
9.	Yajurveda
10.	Samaveda
11.	Atharvaveda

Origin and meaning of '*Veda*'

The word *Veda* (वेद) is derived from the verb *vid* (विद्) with a prefix *dhayan* (धञ्) which means sacred sentiment (*bhav*), achievement (*karma*) and consequence. From this the word *Veda* means spiritual knowledge, subject of knowledge or the means of acquiring knowledge. The variety of meanings of *vid* are to have, to acquire knowledge, or to see.

The Sanskrit word *véda* "knowledge, wisdom" is resultant of the root *vid-* "to know".

As a noun, the word comes into view only in a single illustration in the Rigveda, in RV 8.19.5,

यःसमिधायआहुतीयो **वेद**नददाशमर्तोअग्नये | योनमसासवध्वरः ||

The Sanskrit term *veda* as a common noun means 'knowledge', but can also be used to refer to fields of study unrelated to custom, e.g. in *agada-veda* 'medical science', *sasya-veda* 'science of agriculture' or *sarpa-veda* 'science of snakes' (already established in the early Upanishads).

Synonym – *Shruti*: The sages heard the *Vedas* first (*shruta* refers to that which is listend) hence they are also called the Shrutis.

Creator of Vedas

Divine

According to the Indian righteous texts the *Darshans*, a word is everlasting and has a unique alliance with its meaning. As words from the Vedas are considered eternal the Vedas are considered divine.

The early sages [the seven great sages (*saptarshi*)] have been considered the creators of the Vedas; however several sacred texts state that sages are not the creators of *mantras* rather they were just seers. The ancient sages were enlightened with Vedic text.

The meaning of the word *rishi* (ऋषि) as specified in the holy text *Nirukta* means *rushirdarshanat* (ऋषिर्दर्शनात्) meaning 'those who have realized the obvious form of God are called *rishis* i.e. sages.' Hence one would say the sages were enlightened with acquaintance of the everlastingly existing Vedas. It is from this point of view as well that the Vedas are considered divine as no one is named the status of being their author.

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God or Prajapati

As one goes back to the source of formation one has to believe a theory which itself is ultimate. It is also referred to as The Supreme Soul (*Paramatma*), God (*Ishvar*) or *Mahabhut* (the Great Cosmic Element). The *Bruhadaranyakopanishad* (2.4.10) states that the very breath of this Great Cosmic Being are the Vedas. Lord Brahma from the *Purans* is called Prajapati in Vedic literature. Prajapati generated creation and created the Vedas to look after it. It is also said that Prajapati shaped the Vedas with his expiration.

Lord Brahma

The four Vedas originated from the four mouths of Lord Brahma.

Deity Gayatri

Gayatri has been called *Vedamata* (mother of the Vedas) in different holy texts.

Different deities

Authors of the *Purans* have credited the formation of the Vedas to different deities according to the division to which they belonged. According to one school of thought the *Rugveda* was created from *Agni* (the deity of fire), the Yajurveda from Vayu (the deity of air) and the Samaveda from *Aditya* (the Sun deity).

Absolute ether (*akash*)

The Vedas being in the form of a word (*shabda*), one view states that they have originated from absolute ether. A word is a quality of absolute ether. Divine speech (*para vani*) which manifests from absolute ether in the heart or absolute ether in the subliminal intellect (*chidakash*) is itself identified as the Vedas.

Omkar

A variety of *Purans* say that the Vedas have instigated from omkara. The *Shiva Puran* (7.6.27) says that the *Rugveda*, Yajurveda, Samaveda and *Atharvaveda* have originated from the letters *a* (अ), *u* (उ), *m* (म) and fine sound respectively. The *Bhagvadgita* states that entire literature itself has originated from omkara. As per *Mahabharata* at first there was only one Veda in the form of 'Om'.

The *Para* mode of speech (*vani*)

The Para vani is the most delicate form of knowledge. It is also identified as the Veda. Since sages were enlightened with the Vedic mode of speech it is called the Pashyanti (to see) mode. The *Pashyanti* form of speech is the obvious verbal form of the Vedas. The gross form of this speech is the *Madhyama* mode. These three

forms of expression of the Vedas are exceptionally complex. The fourth mode of speech, the *Vaikhari* is that spoken by humans.

Some *Purans* say that there is only one Veda which is classified in four parts. (*Agnipuran* 150.24, *Vishnupuran* 3.4.1, *Vayupuran* 1.179, *Padmapuran* 5.2.43).

In previous years the Vedas were a single text. Thus it was hard to study them. Saint Vyasa realized this after completion of his study of them. He understood that since the rhymes and maxims were scattered in different ancestries, the Vedas had to be divided in such a way that they would serve the rationale of performing Yajna (sacrificial fires) and being handed down by tradition. If that was not done then they would either not survive or would have needless additions. If they were destroyed then our culture based on them would undergo termination; hence he devoted himself to this task and divided the Veda only for the ease of its study into four parts. He sorted out all the verses from the Vedas and compiled the Rugveda. Then he alienated the verses which could be sung and compiled the Samaveda. That part giving a thorough explanation of how to execute a sacrificial fire (*Yajna*) in prose form, was called the Yajurveda. The *Atharvaveda* was created by compiling the *mantras* useful in performing magic (*yatuvidya*) and helping in worldly life. Because he separated the Veda into four the sage was named Vyas (व्यास), meaning (*Vedan vivyas*), the one who divided the Veda, thereafter. The contemporary teachers (*acharyas*) accepted Sage Vyas's division of the Vedas unconditionally. This will explain how important this accomplishment was.

Vyas handed over a Rugveda *Samhita* called *Bahvruch* to a disciple named Pail, a Yajurveda *Samhita* called *Nigadakhya* to Vaishampayan, a Samaveda *Samhita* called *Chandog* to Jaimini and an Atharvaveda *Samhita* called *Angirasi* to Sumantu. These four disciples propagated the four Vedas. That is why the respective disciple is called the chief teacher of the corresponding Veda manuscript.

In extend of the association of sacrificial fires the Rugveda, Yajurveda and Samaveda were the three most significant ones. All kinds of Vedic sacrificial fires could be performed with the help of these three Vedas. A sage of every Veda controlled at a sacrificial fire. Adhvaryu, Hota and Udgata are the three main sages. Since the Atharvaveda included *mantras*, *tantras*, black magic (*jaran-maran*, *vashikaran*), political actions, etc. it was of entirely no use in performing sacrificial fires. However with the passage of time it came to be used in performing sacrificial fires and so was accorded a position of equality with the other Vedas. As a result in the literature of the later period the Vedas are considered to be four in number.

To summaries, it is believed that humans did not create the respected masterpiece of the Vedas, which were handed down through generations by the word of mouth from time immemorial. The broad supposition is that the Vedic hymns were either taught by God to the sages or that they were revealed themselves to the sages

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who were the seers or 'mantradrasta' of the chants. The Vedas were mainly compiled by Vyasa Krishna Dwaipayana approximatelyduring the time of Lord Krishna (1500 BC).

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The time of origin of the Vedas

The Vedas were produced by The Lord for the wellbeing of mankind much before establishment of man. Hence the sages were able to understand them. The Vedas are Anaadi and Nitya, without beginning and without end and eternal, like sound. They manifest themselves after each Pralaya (deluge). Pralaya and srushti (deluge and creation) alternate the old evidence speaks of the construction of the present world. According to Hindu Scriptures, there have been many creations before, and also Pralayas. The period of each Srushti and each Pralaya spreads over, infinitely beyond human calculation. This is also precisely the reason why they are called everlasting (*anant*).

If the Buddha was born 2,500 years ago, and if in the Buddha's time it was not known when the Vedas came into existence, then the date of Vedas should be much before to this time. The findings of geology, which draws the olden times of the earth to a period long before the time referred to in the Book of Genesis, substantiate this view of cycles of creation and deluge.

On the basis of Jyotish Lokamanya Bal Gangadhar Tilak fixed the date of Vedic origin as 6,000 BC.

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Objectives of Vedas

'The object of the Vedas is to assist man to remain within the limits of the Vedas despite having lost the spiritual emotion that 'He is I (*so'ham*)' by retaining wakefulness of the soul principle or at least to prevent him from becoming unhappy in the materialistic world. The Vedas are intended mainly to confer the entire creation with happiness rather than to attain the Final Liberation (*Moksha*). The resultant benefit of a happy society is the Final Liberation. Due to smooth functioning of the cycle of Dharmacharan i.e. Righteousness and the Final Liberation society becomes happy. This it-self is increasing advantage. The Vedas are certainly delighted to see one individual liberated but they are even happier to see ninety-nine people making pious improvement.' – H.H. Kane Maharaj, Narayangaon, Maharashtra, India

The Vedas are not meant merely for spiritual meditation. They also contain worldly and divine concepts in them.

Importance of Vedas

The Vedas are Lord Narayan Himself: 'वेदो नारायण: साक्षात् ।' Meaning: It is said that 'the Vedas are (Svayambhu) Lord Narayan Himself'.

Significance with reference to spiritual practice - before the creation of man The God created the absolute earth, absolute water, absolute fire, absolute air and absolute ether elements to fulfill the requirements of his (man's) physical body. Similarly He created the Vedas for the sake of the personified soul undertaking spiritual practice (Jivatma).

Importance of study of the Vedas – if the Vedas did not possess the potential to survive as they have over the ages, they would have been dead long ago. The very fact that they have survived is the confirmation to prove their potential. Once it is said that this is the foundation of the temple of one's life it becomes essential to study its nature. However without the study of the Vedas one cannot understand its nature.

Proclamation of the Vedas:

'कृण्वन्तो विश्वमार्यम्'

Means, 'They make the entire universe Aryam'.

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कर्तव्यमाचरन् काममकर्तव्यमनाचरन् ।

तिष्ठति प्रकृताचारे यः स आर्य इति स्मृतः ।। - वसिष्ठस्मृति

Meaning: The man who controlling his desires executes his duties in accordance with the norms of the Great Illusion (Prakruti) and the scriptures, refraining from actions prohibited by the scriptures is called an 'Aryan'. – Vasishthasmruti

Basic holy texts of Indian (Bharatiya) Righteousness (Dharma) and culture - The Vedas constitute the main seat of Aryan religion. Manu's quote 'वेदोऽखिलो धर्ममूलम्' meaning the Vedas are the very establishment of Righteousness is famous. Vedas are the first literary work in the world.

Structure of the Vedas

Each Veda contains four parts – the Samhitas (hymns), the Brahmanas (rituals), the Aranyakas (theologies) and the Upanishads (philosophies). The compilation of mantras is called the Samhita. The Brahmanas are ritualistic texts and include precepts and spiritual duties. Each Veda has quite a few Brahmanas attached to it. The Upanishads and the Aranyakas are the final portions of the Brahmanas, which discuss rational problems. The Aryanyakas aim to serve as objects of meditation for ascetics who live in forests and deal with spirituality. The Upanishads form the final portions of the Veda and therefore called the 'Vedanta' or the end of the Veda. Vedanta consists of the core of Vedic teaching.

The body of Vedic Sanskrit texts includes the Samhitas (In Sanskrit Samhita 'means 'collection'), are collections of metric texts ('mantras'). There are four 'Vedic' Samhitas: the Rig Veda, Sama Veda, Yajur Veda, and Atharva Veda, most of which are available in various school of thoughts (śākhā). In some contexts, the term *Veda* is used to refer to these Samhitas. This is the oldest part of Vedic texts, apart from the Rigveda hymns, which were probably essentially complete by 1200 BCE, dating to the 12th to 10th centuries BCE.

The Brahmanas are writing style that talks about, in technical fashion, the sober sacrificial service as well as remark on their meaning and many associated themes. Each of the Brahmanas is associated with one of the Samhitas or its Shakha. The Brahmanas may either form separate texts or can be partly integrated into the text of the Samhitas. They may also contain the Aranyakas and Upanishads.

The Aranyakas, "forest treaties", were composed by people who meditated in the woods and are the third part of the Vedas. The texts consists of discussions and

understanding of hazardous services (to be studied outside the settlement) and various sorts of additional materials.

While making of Brahmanas and Aranyakas ceases with the end of the Vedic period, there is a large number of Upanishads composed after the end of the Vedic period. The Brahmanas, Aranyakas and Upanishadas deal with understanding the comcepts lika Brahma – the absolute, Atman – the self of soul.

Shruti literature

Shruti literature differs from Smruti in the context that Shruti is heard literature and Smruti is remembered literature. These both the forms are however consequences of Vedic literature. Shruti are considered to be revealed by themselves whereas Smruti are of human origin.

Upanishada are philosophical works in discussion form. The questions of philosophy of nature and the fate of Atman etc. are discussed in Upanishadas. These also contain the spiritual interpretations from Vedas. As Upanishadas form the essence of Vedic contents and lie at the end of Vedas, tehse are termed as Vedanta.

Four Vedas

As seen previously, the division of the Vedas is fourfold –

- Rigveda (RV)
- Yajurveda (YV)
- Samaveda (SV)
- Atharvaveda (AV)

Rigveda

The Rigveda Samhita is the oldest existing manuscript. It is a collection of 1,028 Vedic Sanskrit Suktas and 10,600 Shlokas in all, organized into ten sections (Sanskrit: *mandalas*). The Suktas are devoted to Rigvedic deities.

The books were compiled by Rushis from different spiritual groups over a period of several centuries, roughly from 1500 BCE in north region of Indian subcontinent recognized as Sapasindhu.

Rigveda manuscripts were selected for inscription in UNESCO's Memory of the World Register in 2007.

Origin and meaning

'*Ruk* is a metrical composition. The word *ruk* (ऋक्) may be defined as follows.

'ऋच्यन्ते स्तूयन्ते देवा अनया इति ऋक्' means that by means of which the deities can be glorified is a *ruk* (*Shabdakalpadrum*).

'पादेनार्धेन चोपेतवृत्तबद्धा मन्त्रा ऋच:' means a *rucha* is a metrical *mantra* which consists of a metrical part (*charan*) and an *ardhi*(*Jaimini Nyayasutras* 2.1.12).

'तेषामृक् यत्रार्थवशेन पादव्यवस्था' means a sentence in which the stanzas (*charan*) are arranged in a rhythm (*Chanda*) is known as a *ruk* (*Jaimini Nyayasutras* 2.1.10).

Importance

This is the first and oldest among the four Vedas. In fact the Rugveda is the oldest sacred text available on the face of the earth.

Subdivisions

'मंत्रब्राह्मणयोर्वेदनामधेयम्'

The literary part of Vedas is formed of 2 parts, Mantra and Brahmana. Samhita is a compilation of Mantra and Brahmana contains Brahmana, Aranyaka and Upanishada.

Formation of mandals

The Rugveda Samhita consists of ten Mandala (parts). One Mandala contains many Sukta. Each Sukta is formed by various Ruchas (hymes). Mandalas are further divided in to Gotramandala and Mishramandala. As the Mandala from two to eight are having the names of particular Gotra, they are called as Gotra Mandala. These are namely Grutsaamad, Vishvamitra, Vamadeva, Atri, Bharadvaja, Vashishtha, Kanva and Angirasa. Two to seven Mandala form the core of Rugveda, as thecomposition of Mantra in these Mandalas is the most ancient. Ninth Mandala is adedicated to offer the praise to Soma called as Pavamana, so the Mandala is named after it as Pavamana Mandala. After that first and the tenth Mandala were added to the Rugveda. Rugveda also comprises the Khila Suktas. Khila means appendix.

Chandas (rhythm) in the Rugveda

Rugveda is coomletely chanted based on rhythm. Based on number of Padas and total number of letters in one Pada, there are Chandas. Gayatri, Trishtubh and Jagati etc. are some of the Chadas to mention.

Topics

The Suktas from Rugveda mainly deal with the Stutu (praise) of Devata of Vishishta Shakti. They include Indra, Agni, Varuna, Maruta etc. along with these the Suktas related to Vishva Utpatti, social life, Samskaras, Tatvajnana are also found. These are classified as

1. Devata Sukta
2. Dhruvapada Sukta
3. Katha Sukta
4. Samvada Sukta
5. Dana Stuti Sukta
6. Tatvajnana Sukta
7. Samskara Sukta
8. Mantrika Sukta
9. Laukik Sukta
10. Apri Sukta

Devatasukta: It explains the forms, nature and magnificence of Gods such as Indra, Agni, Varun, Surya, Savita, Vayu, Usha, Pusha, *Apa*, Ashvini, Rudra, Bhag, Vishnu, Marut, Vishvedev, Sarasvati, Vak, Dyava-Pruthivi, etc.

Dhruvapadsukta: Several Suktas with specific choras suffixed to Mantars are Dhruvapada Sukta.

Kathasukta: some stories are mentioned in short the form of Beeja in some Suktas of Rugveda. These are further described in Brahmanas. Shunahshepa Katha from Rugveda 1.24 is elaborated in Aitareya Brahmana. The Katha of Vamana Avatara of Shri Vishnu is explained in Shatapath Brahmana which comes in Sukta 1.154 of Rugveda.

Samvadsukta: Three major conversations are described in Rugveda. These are conversation between Pururava and Urvashi (10.95), Yama and Yami (10.10) and Sarama and Pani (10.108). Many other Samvada are also found in Rugveda but these three are considered as most important.

Danstutisukta: These are the Suktas praising the Kings as they have offered various things in the form of horses, cows, oxen, gold etc.

Tattvadnyansukta: Various principles are quoted in the condensed form which are further elaborated in Brahmanas. For example, Ekam Sat is the principle which says God is one. All the universe is originated from this one absolute. So everything is God.

Sanskarsukta: Various Suktas useful for performinf the Samskaras right from Garbhadhana, Upanayana, Vivaha, Snana and Marjana to Preta Samskara and Shraddha Prayoga are explained under these type of Suktas.

Mantriksuktas: Several Suktas in Rugveda are used to conquer the diseases, Bhuta badha, Dushta Swapna, Jarana, Marana and Visha.

Laukiksukta: here the Dharmacharana Suktas are mentioned. How the codes of conduct in the society to be followed are described.

Aprisukta: These are the Suktas Chanted at the time of offering Prasada to particular Devata.

Deities from the Rugveda

A rule from the Rugveda says 'यस्य वाक्यं स ऋषिः या तेनोच्यते सा देवता' meaning the one who says a quote is its sage and the deity described by Him is the one to be worshipped.

Pairs of deities: Some examples of pairs of Devata from the Rugveda are Agni-Shom (Rugveda 1.93), Mitravaruni (6.67), Dyava-Pruthivi (1.85) and Shuna-Sir (4.57.5). A characteristic of Vedic form of worship is considering two different Devata as one and worshipping them together.

Vedic sages

The quote 'यस्य वाक्यं स ऋषिः ' by Yaska states that a sage (*rushi*) is the one whose quote itself is a *mantra*. According to this description (*nirukti*) Devata like Indra, Agni, etc. should also be considered as sages but being Devata they are not called so. The text *Sarvanukramani* by Sage Shaunak gives the name of the sage of every Sukta and Rucha. Those who are sages from among Devata, *Brahmans* (priests) and kings are called *devarshi*, *brahmarshi* and *rajarshi* respectively.

Over 350 sages have contributed in Rugveda. Angira and Kushika are considered the oldest among all. But only one or two mantras of these are available. Other major contributors are by Vashishta highest with 103, followed by Bharadvaja 60, Vamadeva 55, Vishvamitra 48, Grutsamas 40, Kakshivan 27, Agastya 26, Dirghatama 25, Gautam 20, Medhatithi 20, Shyavashva 15, Kutsa 14, Madhuchchanda 10, Praskanva 9, Parashar 5, Jamadagni 5, Kavash 4, Bruhaspati 2 and Haryat, Apala, Ashtak, Kushik and Sudas 1 each.

Society and culture (*sanskruti*): From the descriptions in the Rugveda at various places one can understand the culture of the Vedic people.

Yajurveda

The Yajurveda Samhita contains ancient mantras and also in part of Suktas borrowed and adapted from the Rigveda. Its purpose was practical, in that each mantra must accompany an action in sacrifice but, unlike the Samaveda, it was compiled to apply to all sacrificial rites, not merely the Somayajna.

Origin and meaning

Yajus means Mantras in fine form. Thus Yajurveda contains specific mantras which are chanted during Yajna.

Importance

Jnana, Karma and bhakti are the forms of Yoga. In short to live successful life these are the three major ways. Of these Yajurveda deals with the Karma. Also called as Karmakanda.

Types

Krushna and Shukla are the main dicisions of Yajurveda. Vaishamayana is the main mentor of Krushna Yajurveda while Yajnavalkya is mentor of Shukla Yajurveda.

Samaveda

Samaveda Samhita contains the Suktas in the form of Padya, which are suitable for singing. There are many Suktas taken from Rugveda but all these are in the form of Padya. In total 1549 Suktas are present in Samaveda. Kauthuma and Jaiminiya are the two main branches of Samaveda.

Origin and meaning

Sama means singing. This is the popular meaning of Sama from which it is named as Samaveda.

In Chandogya Upanishada it is stated as 'ऋचि अध्यूढं साम' meaning Sama are those which are based on Rucha.

As per Bruhadaranyaka (1.3.22) sa means a Rucha and ma means musical note. Together they form the word Sama. Hence the musical singing of the Sukta is Sama.

Origin:

The origin is attributed to Sun. it is believed that the Samaveda is originated from the God of light.

Importance

The divine text the Bruhaddevat says 'सामानि यो वेत्ति स वेद तत्त्वम्'

Means one who knows the Sama, can understand the significance of Veda

In the Shrimadbhagvadgeeta (10.42) Bhagavan Shrikrushna has glorified the Samaveda by saying that, "From among all the Vedas I am the Samaveda". According to Chandogya Upanishad, Omkara is the gift of Samaveda. The importance of Samaveda is stated in Rugveda as well as Atharvaveda.

The Yajurveda and the Samaveda

Yajurveda and Samaveda are created for performing Yajna. So they are called as Yajnik texts. Various Rucha from Rugveda are found in Yajurveda and Samaveda. Yajurveda states the methof Yajna where as Samaveda states the Rucha for the Yajna in Padya form. Samaveda has ample importance in the Indian classical msic.

Atharvaveda

Origin and meaning

The Veda compiled by Atharvana Rushi is Atharva Veda. Atharvana means directions and Mantras for clearing off the weakess and adversity.

The **Atharvaveda** (Sanskrit: अथर्ववेदः, *atharvaveda*, a tatpurusha compound of *Atharvan*, an ancient Rishi, and *Veda*, meaning "knowledge") is a holy text of Hinduism and one of the four Vedas, often called the "fourth Veda". The time period of the Atharvaveda lies between 1200–1000 BCE.

As per Nirukta, Atharvana means a stable minded person or Yogi. One of the oldest names by which the Atharvaveda is known is 'Atharvangirasa Veda'. It is believed that these two Rushis namely Atharvan and Angirasa compiled this Veda.

Other names of Atharvaveda are Angirasaveda, Kshatraveda, Bhaishajyaveda, etc.

As per Patanjali Muni, Atharvaveda had nine Shakhas. But today Samhita is available only with two Shakhas i.e. Shaunak and Pippalada. When one says Atharvaveda it implies mainly the Shaunaka Samhita. There are 201 kandas in this

section. Around 6000 Ruchas are present in about 730 Suktas. Out of these near about 1200 belong to Rugveda.

History and contents

This Veda is considered less sacred than the other three Vedas because it contains very little information regarding Yajna also one fifth of the Atharvaveda is taken from the Rugveda.

The Atharvaveda is the oldest literature in the history of Indian medicine. It is said to be origin of Ayurveda, the Indian science of medicine. There are several mantras indicated to cure various mental and physical disorders. Many mantras state the protection from the snake bite and other insect bites. Application of medicinal plants is also found. This differs Atharvaveda from the other three Vedas.

The philosophy of the Samhita presents quite high level of development of Metaphysical thoughts. The study of Atharvaveda is important to understand the development of Indian philosophical thought.

Magic (*yatuvidya*)

In Atharvaveda several kinds of remedies like Jarana, Marana Vidya, Bhuta Vidya and Visha Vidya are explained for the first time. It is believed that diseases originate from Bhuta-Preta-Atma. So they need to be satisfied by Prasada in the form of offering Yajna.

The Rugveda and the Atharvaveda

The path followed by sages from the Rugveda is to worship devata through Sukta and to get auspicious benefits from them. On the other hand the path followed by sages from the Atharvaveda is to acquire benefits by commanding phenomenal energies through mantras.

The Upanishads

Compared to other Vedas the Upanishadas associated with Atharvaveda are maximum. In all around 68 upanishadas are considered to be associated with Atharvaveda.

Different names of Atharvaveda

The Atharvaveda has been called by several other names:

Atharvanaveda

Atharvanangirasa

Angirasa

Bhrugwangirasa

Bhrgu-vistara

Brahmaveda

Bhaisajyaveda

Ksattraveda

Branches of Atharvaveda

Pippalāda and Śaunaka

Of these, only Saunaka is available in a complete form. This Veda is divided into four 'prapāthakas,' comprising 20 'kāṇḍas.' Each kāṇḍa is again sub-divided into 'suktas' and these suktas, into 'mantras.' The details are as follows:

Prapathakas	Kāndas	Suktas	Mantras
I	1 to 7	433	2030
II	8 to 12	45	1573
III	13 to 18	43	1063
IV	19 & 20	215	1411
Total		763	6077

The Paippalada text, which exists in a Kashmir and an Orissa version, is longer than the Saunaka one; it is only partially printed in its two versions and remains largely un-translated.

Differing form the other three Vedas, the Atharvaveda has less connection with Yajna. Its first part consists chiefly of Suktas concerned with protection against demon and disaster, Suktas for the healing of diseases, for long life and for various desires or aims in life.

The second part of the text contains speculative and philosophical Suktas.

Atharvaveda if compiled comparatively later than the Three Vedas.

The Atharvaveda is concerned with the material world or world of man and in this respect also differs from the other three Vedas. Atharvaveda also approves the use of force, in particular circumstances and similarly this point is a going away from the three other Vedas.

Recitation style of the Atharvaveda

The recitation style of Atharvaveda is similar to that of Rugveda. The Shaunaka Shakha of the Atharvaveda is recited in western Saurastra, at Varanasi, Gokarna and, after a recent introduction from Varanasi, also in South India in Tirupathy, Chidambaram etc. The Gokarna version follows the northern style, which resembles the way the Maharashtrians recite the Rigveda Samhita. In Varanasi, which derives its style from Gujarat, the way of recitation is little different. Similarly in South India, the Shaunaka Shaka is recited using the Rig Veda as a base, with minute variations in Kampa Svara.

The Paippalada Shakha of the Atharvaveda is recited in Odisha in Samhita-patha, however not with typical Vedic svara, and in south Jharkhand districts by some migrants of Brahmins from Utkala. While its Kashmir branch has been extinct for few centuries.

Divisions

There are four divisions of these Kandas. First 7 kandas deal with the healing and magic applied in all situations of life. Kandas 8 to 112 say about Nature and Humans. 13 to 18 describes about issues of householders life, like marriage, birth, death etc. 19th and 20th were added lately and are helpful for priest.

The Paippalada text has a similar arrangement into four parts (Kandas 1-15, 16-17, 18, 19-20) with roughly the same contents. The popular Gopala Tapini Upanishad, among Nimbarka Sampradaya and GaudiyaVaishnavism, belongs to Paippalada Samhita.

Here some Important and famous Suktas of Atharvaveda are listed to have a general view its subject:

1. Bhoomi Sukta

2. Brahmachari Sukta

3. Madhuvidya Sukta

4. Medhavardhana Sukta

5. Vivaha Sukta

अथ द्वादशं काण्डम्

(१) प्रथमं सूक्तम्

(१-६३) त्रिषष्ट्यृचस्यास्य सूक्तस्याथर्वा ऋषिः । भूमिर्देवता । (१, ३, १७, २६, ३१, ५५, ६०) प्रथमातृतीयासप्तदश्येकोनत्रिंश्येकत्रिंशीपञ्चपञ्चाशीषष्टीनामृचां त्रिष्टुप् (२) द्वितीयाया भुरिक्त्रिष्टुप् (४-६, १०, ३५) चतुर्थ्यादितृचस्य दशम्यष्टात्रिंश्योश्च त्र्यवसाना षट्पदा जगती (७) सप्तम्याः प्रस्तारपङ्क्तिः (८, ११) अष्टम्येकादश्योस्त्र्यवसाना षट्पदा विराडष्टिः (६) नवम्याः परानुष्टुप्त्रिष्टुप् (१२-१३, ३७) द्वादशीत्रयोदशीसप्तत्रिंशीनां त्र्यवसाना पञ्चपदा शक्वरी (१४) चतुर्दश्या महाबृहती (१५) पञ्चदश्याः पञ्चपदा शक्वरी (१६, २१) षोडश्येकविंश्योरेकावसाना साम्नी त्रिष्टुप् (१८) अष्टादश्यास्त्र्यवसाना षट्पदा त्रिष्टुबनुष्टुब्गर्भातिशक्वरी (१६) एकोनविंश्या उरोबृहती (२०) विंश्या विराडुरोबृहती (२२) द्वाविंश्यास्त्र्यवसाना षट्पदा विराडतिजगती (२३) त्रयोविंश्याः पञ्चपदा विराडतिजगती (२४) चतुर्विंश्याः पञ्चपदानुष्टुब्गर्भा जगती (२५) पञ्चविंश्यास्त्र्यवसाना सप्तपदोष्णिग्नुष्टुब्गर्भा शक्वरी (२६-२८, ३३, ३५, ३८-४०, ५०, ५४, ५६, ५९, ६३) षड्विंश्यादितृचस्य त्रयस्त्रिंशीपञ्चत्रिंशीयेकोनचत्वारिंशीचत्वारिंशीपञ्चाशीचतुष्पञ्चाशीषट्पञ्चाश्येकोनषष्टीत्रिषष्टी नाञ्चानुष्टुप् (३०) त्रिंश्या विराड्गायत्री (३२) द्वात्रिंश्याः पुरस्ताज्ज्योतिस्त्रिष्टुप् (३४) चतुस्त्रिंश्यास्त्र्यवसाना षट्पदा त्रिष्टुब्बृहतीगर्भातिजगती (३६) षट्त्रिंश्या विपरीतपादलक्ष्मा पङ्क्तिः (४१) एकचत्वारिंश्यास्त्र्यवसाना षट्पदा ककुम्मती शक्वरी (४२) द्विचत्वारिंश्याः स्वराडनुष्टुप् (४३) त्रिचत्वारिंश्या विराडास्तारपङ्क्तिः (४४-४५, ४८) चतुश्चत्वारिंशीपञ्चचत्वारिंश्येकोनपञ्चाशीनां जगती (४६) षट्चत्वारिंश्याः षट्पदानुष्टुब्गर्भा पराशक्वरी (४७) सप्तचत्वारिंश्याः षट्पदोष्णिग्नुष्टुब्गर्भा परातिशक्वरी (४८) अष्टचत्वारिंश्याः पुरोऽनुष्टुप्त्रिष्टुप् (५१) एकपञ्चाश्यास्त्र्यवसाना षट्पदानुष्टुब्गर्भा ककुम्मती शक्वरी (५२) द्विपञ्चाश्याः पञ्चपदानुष्टुब्गर्भा परातिजगती (५३) त्रिपञ्चाश्याः पुरोबार्हतानुष्टुप् (५७) सप्तपञ्चाश्याः पुरोऽतिजागता जगती (५८) अष्टपञ्चाश्याः पुरस्ताद्बृहती (६१) एकषष्ट्याः पुरोबार्हता त्रिष्टुप् (६२) द्विषष्ट्याश्च परात्रिराडत्रिष्टुप् छन्दांसि

सत्यं बृहदृतमुग्रं दीक्षा तपो ब्रह्म यज्ञः पृथिवीं धारयन्ति ।
सा नो भूतस्य भव्यस्य पत्न्युरुं लोकं पृथिवी नः कृणोतु ॥१॥

असंबाधं मध्यतो मानवानां यस्या उद्वतः प्रवतः समं बहु ।
नानावीर्या ओषधीर्या बिभर्ति पृथिवी नः प्रथतां राध्यतां नः ॥२॥

(५) पञ्चमं सूक्तम्

(१-२६) षड्विंशत्यृचस्यास्य सूक्तस्य ब्रह्मा ऋषिः । ब्रह्मचारी देवता । (१)
प्रथमर्चः पुरोतिजागतविराड्गर्भा त्रिष्टुप् (२) द्वितीयायाः पञ्चपदा बृहतीगर्भा विराट्
शक्वरी (३) तृतीयाया उरोबृहती (४-५, २४) चतुर्थीपञ्चम्योश्चतुर्विंश्याश्च त्रिष्टुप् (६)
षष्ठ्याः शाक्वरगर्भा चतुष्पदा जगती (७) सप्तम्या विराड्गर्भा त्रिष्टुप् (८) अष्टम्याः
पुरोतिजागता विराड्जगती (९) नवम्या बृहतीगर्भा त्रिष्टुप् (१०) दशम्या भुरिक्त्रिष्टुप्
(११, १३) एकादशीत्रयोदश्योर्जगती (१२) द्वादश्याः शाक्वरगर्भा चतुष्पदा
विराडतिजगती (१४, १६-२२) चतुर्दश्याः षोडश्यादिसप्तानाञ्चानुष्टुप्
(१५) पञ्चदश्याः पुरस्ताज्ज्योतिस्त्रिष्टुप् (२३) त्रयोविंश्याः
पुरोबार्हतातिजागतगर्भा त्रिष्टुप् (२५) पञ्चविंश्या एकावसानार्च्युष्णिक्
(२६) षड्विंश्याश्च मध्येज्योतिरुष्णिग्गर्भा त्रिष्टुप् छन्दांसि

ब्रह्मचारीष्णंश्चरति रोदसी उभे तस्मिन्देवाः संमनसो भवन्ति ।
स दाधार पृथिवीं दिवं च स आचार्यं तपसा पिपर्ति ॥१॥

ब्रह्मचारिं पितरो देवजनाः पृथग्देवा अनुसंयन्ति सर्वे ।
गन्धर्वा एनमन्वायन्त्रयस्त्रिंशत्त्रिशता षट्सहस्राः सर्वान्त्स देवांस्तपसा
पिपर्ति ॥२॥

आचार्य उपनयमानो ब्रह्मचारिं कृणुते गर्भमन्तः ।
तम्रात्रीस्तिस्र उदरे बिभर्ति तं जातं द्रष्टुमभिसंयन्ति देवाः ॥३॥

इयं समित्पृथिवी द्यौर्द्वितीयोतान्तरिक्षं समिधा पृणाति ।
ब्रह्मचारी समिधा मेखलया श्रमेण लोकांस्तपसा पिपर्ति ॥४॥

पूर्वो जातो ब्रह्मणो ब्रह्मचारी घर्मं वसानस्तपसोदतिष्ठत् ।
तस्माज्जातं ब्राह्मणं ब्रह्म ज्येष्ठं देवाश्च सर्वे अमृतेन साकम् ॥५॥

ब्रह्मचार्येति समिधा समिद्धः काष्णं वसानो दीक्षितो दीर्घश्मश्रुः ।
स सद्य एति पूर्वस्मादुत्तरं समुद्रं लोकान्त्संगृभ्य मुहुराचरिक्रत् ॥६॥

ब्रह्मचारी जनयन्ब्रह्मापो लोकं प्रजापतिं परमेष्ठिनं विराजम् ।

अथ नवमं काण्डम्

(१) प्रथमं सूक्तम्

(१-२४) चतुर्विंशत्यृचस्यास्य सूक्तस्याथर्वा ऋषिः । मध्वश्विनौ च देवताः ।

(१, ४-५) प्रथमाचतुर्थीपञ्चमीनामृचां विष्टुप् (२) द्वितीयायाःखिष्टुबगर्भा पङ्क्ति

(३) तृतीयायाः पंक्तनुष्टुबिष्टुप् (३) षष्ठ्या अतिशाक्वरगर्भा यवमध्या महाबृहती

(७) सप्तम्या अतिजागतगर्भा यवमध्या महाबृहती (८) अष्टम्या बृहतीगर्भा

संस्तारपङ्क्तिः (६) नवम्याः पराबृहती प्रस्तारपङ्क्तिः (१०) दशम्याः परोष्णिक्पङ्क्ति

(११-१३, १४-१६, १८-१९) एकादश्यादितृचस्य

पञ्चदशीषोऽष्टादश्येकोनविंशीनाञ्चानुष्टुप् (१४) चतुर्दश्याः पुर उष्णिक्

(१७) सप्तदश्या उपरिष्टाद्विराड्बृहती (२०) विंश्या भुरिग्विष्टार्पङ्क्तिः (२१)

एकविंश्या एकावसाना द्विपदार्च्यनुष्टुप् (२२) द्वाविंश्याःक्षिपदा ब्राह्मी पुर उष्णिक्

(२३) त्रयोविंश्या द्विपदार्ची पङ्क्तिः (२४) चतुर्विंश्याश्च न्यवसाना षट्पदाःख्छन्दांसि

दिवस्पृथिव्या अन्तरिच्चात्समुद्रादमेर्वातान्मधुकशा हि जज्ञे ।
तां चायित्वामृतं वसानां हृद्धिः प्रजाः प्रति नन्दन्ति सर्वाः ॥१॥

मुहत्पयौ विश्वरूपमस्याः समुद्रस्य स्रोत रतं आहुः ।
यत ऐति मधुकशा रराणा तत्प्राणस्तदमृतं निर्विष्टम् ॥२॥

पश्यन्त्यस्याश्रितं पृथिव्यां पृथङ्गनरौ बहुधा मीमांसमानाः ।
अमेर्वातान्मधुकशा हि जज्ञे मरुतामुय्रा नप्तिः ॥३॥

माताटित्यानां दुहिता वसूनां प्राणः प्रजानाममृतस्य नाभिः ।
हिरण्यवर्णा मधुकशा घृताची महाभर्गश्चरति मर्त्येषु ॥४॥

मधोः कशामजनयन्त देवास्तस्या गर्भो अभवद्विश्वरूपः ।
तं जातं तरुणं पिपर्ति माता स जातो विश्वा भुवना वि चष्टे ॥५॥

कस्तं प्र वेद क उ तं चिकेत यो अस्या हृदः कलशः सोमधानो अर्पितः ।
ब्रह्मा सुमेधाः सो अस्मिन्मदेत ॥६॥

स तौ प्र वेद स उ तौ चिकेत यावस्याः स्तनौ सहस्रधारावर्पितौ ।

(१०८) अष्टोत्तरशततमं सूक्तम्

(१-५) पञ्चर्चस्यास्य सूक्तस्य शौनक ऋषिः । (१-३, ५) प्रथमादितृचस्य पञ्चम्या
ऋचश्च मेधा (४) चतुर्थ्याश्चाग्निर्देवते । (१, ४-५) प्रथमाचतुर्थीपञ्चमीनामनुष्टुप्
(२) द्वितीयाया उरोबृहती (३) तृतीयायाश्च पथ्याबृहती छन्दांसि

त्वं नो मेधे प्रथमा गोभिरश्वेभिरा गहि ।
त्वं सूर्यस्य रश्मिभिस्त्वं नो असि यज्ञिया ॥१॥

मेधामहं प्रथमां ब्रह्मणवतीं ब्रह्मजूतामृषिष्टुताम् ।
प्रपीतां ब्रह्मचारिभिर्देवानामवसे हुवे ॥२॥

यां मेधामृभवो विदुर्यां मेधामसुरा विदुः ।
ऋषयो भद्रां मेधां यां विदुस्तां मय्या वेशयामसि ॥३॥

यामृषयो भूतकृतो मेधां मेधाविनो विदुः ।
तया मामद्य मेधयाग्ने मेधाविनं कृणु ॥४॥

मेधां सायं मेधां प्रातर्मेधां मध्यन्दिनं परि ।
मेधां सूर्यस्य रश्मिभिर्वचसा वेशयामहे ॥५॥

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अथ चतुर्दशं काण्डम्

(१) प्रथमं सूक्तम्

(१-६४) चतुःषष्ट्यृचस्यास्य सूक्तस्य सावित्री सूर्या ऋषिका । (१-५) प्रथमादिपञ्चर्चां सोमः (६) षष्ठ्याः स्वविवाहः (७-२२, २६, २८-६४) सप्तम्यादिषोडशानां षड्विंशत्या अष्टाविंशत्यादिसप्तत्रिंशत्श्च आत्मा (२३) त्रयोविंश्याः सोमार्कौ (२४) चतुर्विंश्याश्चन्द्रमाः (२५) पञ्चविंश्या नृणां विवाहमन्त्राशिषो वधूवासःसंस्पर्शमोचनश्च (२७) सप्तविंश्याश्च वधूवासःसंस्पर्शमोचनं देवताः । (१-१३, १६-१८, २२, २४-२८, ३०, ३५-३६, ४१-४४, ५१-५२, ६२-६३) प्रथमादित्रयोदशानां षोडश्यादितृचस्य द्वाविंश्याः पञ्चविंश्यादिचतसृणां त्रिंशी पञ्चविंशीषट्त्रिंशीनामेकचत्वारिंश्यादिचतसृणामेकपञ्चाशीद्विपञ्चा-शीद्वाषष्टीत्रिषष्टीजगष्टीनाश्चानुष्टुप् (१४) चतुर्दश्या विराट् प्रस्तारपङ्क्तिः (१५) पञ्चदश्या आस्तारपङ्क्तिः (१६-२०, २४, ३२-३३, ३७, ३८-४०, ४७, ४८-५०, ५३, ५६-५७) एकोनविंशीविंशीचतुर्विंशीद्वात्रिंशीत्रयस्त्रिंशीसप्तत्रिंश्येकोनचत्वारिंशीचत्वारिंशी सप्तचत्वारिंश्येकोनपञ्चाशीपञ्चाशीत्रिपञ्चाशीषट्पञ्चाशीसप्तपञ्चा-शीनां ((५८-५९, ६१) अष्टपञ्चाश्येकोनषष्ट्येकषष्टीनाश्च) त्रिष्टुप् (२१, ४६) एकविंशीषट्चत्वारिंश्योर्जगती (२३, ३१, ४५) त्रयोविंश्येकत्रिंशीपञ्चचत्वारिंशीनां बृहतीगर्भा त्रिष्टुप् (२९, ५५) एकोनत्रिंशीपञ्चपञ्चाश्योः पुरस्ताद्बृहती (३४) चतुस्त्रिंश्याः प्रस्तारपङ्क्तिः (३६) अष्टत्रिंश्याः पुरोबृहती निचृद् परोष्णिक् ((४५) अष्टचत्वारिंश्याः पथ्यापङ्क्तिः) (५४, ५८) चतुष्पञ्चाशीचतुःषष्ट्योर्भुरिक्त्रिष्टुप् (६०) षष्ठ्याश्च परानुष्टुप्त्रिष्टुप् छन्दांसि

सत्येनोत्तभिता भूमिः सूर्येणोत्तभिता द्यौः ।
ऋतेनादित्यास्तिष्ठन्ति दिवि सोमो अधि श्रितः ॥१॥

सोमेनादित्या बलिनः सोमेन पृथिवी मही ।
अथो नक्षत्राणामेषामुपस्थे सोम आहितः ॥२॥

सोमं मन्यते पपिवान्यत्संपिंषन्त्योषधिम् ।
सोमं यं ब्रह्माणो विदुर्न तस्याश्नाति पार्थिवः ॥३॥

यत्त्वा सोम प्रपिबन्ति तत आ प्यायसे पुनः ।
वायुः सोमस्य रक्षिता समानां मास आकृतिः ॥४॥

Core of Atharvaveda

The subject matter of the Samhitā of this Veda has no systematic division in the first twelve Kandas. The last two again, deal with miscellaneous topics. However, there are eight topics that are covered:

1. Bhaisajya: diseases, their causes and cures
2. Ayushya: needed for longevity of life
3. Paustika: worldly progress and welfare
4. Abhicharika: destroy or harm enemies who obstruct progress
5. Prayashchitta:
6. Vivaha: marriage
7. Rajakarma: political system
8. Brahmanya: nature of Brahman, the Absolute.

BhaisajyaSuktas

These types of Sukta deal with disorders, their causes and the cure. This has paved the base to the ancient Indian medical science, Ayurveda. Ayurveda is originated from Atharvaveda. It is enlisted as Upveda of Atharvaveda. Remedies for many diseases lika Jwara, Kushtha, Kamala, Krumi are dealt in Atharvaveda. Many disorders of ear, nose, throat, fracture of bone are enlisted. Various names of body parts are mentioned stating the knowledge of human anatomy. These diseases are caused by germs, violation of the laws of nature, anger of Devata, mean spirits and sins committed previously. Apart from medicines and physical remedies, use of chants and charms was also in abundance. A deep knowledge of the herbs and their various medicinal properties can be inferred from many of the mantras.

Ayushya Sukta

Prayers are described for the longevity of healthy life. These are to be chanted on auspicious occasions like Upanayana, Godana, Vivaha and so on.

PaustikaSuktas

Pushti means worldly advancement and wellbeing. These Suktas generally contain prayers for the blessings of Devata like the Marut, Parjanya and others so that there can be good rains. Due to these rains crops and works like house-building, agriculture and trade flourishes well.

Abhicharika Sukta

These Sukta aim at to vanish the enimies who obstruct our progress. These techniques are called as Yatu or Krutya. The number of such suktas is rather large.

Prayashchitta Sukta

These are concerned mainly with expiatory rites to offset the evil effects due to non-performance or wrong performance of Karma.

Strikarma Sukta

These suktas deal mainly with marriage, love and allied topics. Procedures that help in regaining the lost love of one's spouse are also described.

Rajakarma Sukta

These Suktas describe the political system of that era. The king used to be elected by people. Social issues were discussed by committees. Rajapurohita was having remarkable place in state affairs. The prayers for the war and suktas ecpressing the devotion to motherland are of high motivation.

Brahmanya Suktas

They explain the nature of Brahman – the absolute. The originsl ideas are derived from Rugveda and Upanishadas. The whole universe is created and controlled by the Brahman. There is description of the symbols of various powers of Almighty.

Aranyaka:

There is no Aranyaka related to Artarvaveda. One Brahmana is associated with Atharvaveda – Gopatha Brahmana.

No Āraṇyaka of the Atharvaveda has come to light so far. Only one Brāhmaṇa has been discovered, the GopathaBrāhmaṇa.

Gopatha Brahmana is associated with both Shaunaka and Pippalada branches of Atharvaveda. This is the commentary on Atharvaveda. Here one can find the explanation of various Suktas in detail.

Upanishada

Three Upanishada are associated with Atharvaveda.

1. Prashnopanishad
2. Mandukyopanishad
3. Mundakopanishad

Importance of Atharvaveda

Atharvaveda is considered as the Veda of the Purohita i. e. Brahma. As it contains all kinds of acts such as bringing about peace, strengthening, devastation, black magic (*abhichar*), etc. it is said that only a Brahma who has studied this Veda can be nominated as a Purohita. Rajapurohita had to perform the Dharmakarya according to Atharvaveda for the welfare of the society and the King. The knowledge of Atharvaveda would save the society from all kinds of sorrows.

The Atharvaveda is a valuable and inspiring literary work for a sociologist. It is a treasure house of information on varied topics such as the latest progress in medicine, the attitudes and conduct in politics, relationships between women and men, business transactions, misconcepts in society, conventions, Spirituality, etc.

Mantras to cure the diseases are also mentioned in it. The ultimate wish of all living beings of living long and healthy life is surely assisted by Atharvaveda.

Sayanacharya has praised Atharvaveda for fulfilling the needs of both Lokas i.e. Ihaloka & Paraloka.

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Review of Medha

Vyutpatti & Nirukti –

मेधा – स्त्री. मेध् + 'धिद्विदादिभ्योऽङ'।

मेधतें संगच्छतें अस्याम् इति । धारणवती बुद्धिः इति अमरः ।

धारणाशक्तियुक्ता धीः मेधा मेधतें संगच्छतेंऽस्यां सर्व बहुश्रुतं विषयीकरोति इति वा मेधा ।

मेधृ - ञ सङ्गे - मेधायां सेमक्तात् सरोरित्यः आपबहुश्रुतविषयीकरणं

धारणा यदुक्तं धारणाबुद्धेः गुणविशेषः इति ।   शब्दकल्पद्रुम्

मेधा - स्त्री. मेध् + अङ् -

धारणवत्यां बुद्धौ यया बुद्ध्या ज्ञातस्य न विचरणं तत्र ।   वाचस्पत्यम्

मेधा - स्त्री. धारणवत्यां बुद्धौ ।
          वैद्यकशब्दसिन्धु ।

A type of Buddhi, responsible for the retaining is Medha. A type of Buddhi which grasps the knowledge & retains it for longer period of time. It is the power of retention of knowledge.

It is the capacity of a person to uphold the essence gained through reading, hearing, looking, etc.

Medha is stated as to have proper understanding about the Jneya Vishaya, i.e. object of knowledge.

It can also be understood as mental vigour or power, intelligence, prudence & wisdom.

Virtually Medha is used to denote high intellect. The word 'Medhavi' is used for a person who is having the knowledge of various Shastras.

To conclude the meaning of Medha from all above dictionaries, Medha can be thought as the power to retain the knowledge.

Meanings of Medha from dictionaries are as follows

मेधा b [L=167897]	*f.* mental vigour or power , intelligence , prudence , wisdom (pl. products of intelligence , thoughts , opinions) RV &c

(http://www.sanskrit-lexicon.uni-koeln.de/mwquery/)

medhA	f. mental vigour or power , intelligence , prudence , wisdom (pl. products of intelligence , thoughts , opinions) RV. &c. &c.; Intelligence personified (esp. as the wife of Dharma and daughter of Daksha)

(http://www.sanskrit-lexicon.uni-koeln.de/cgi-bin/tamil/recherche)

मेधा	medhA	f.	prudence
मेधा	medhA	f.	form of sarasvatI
मेधा	medhA	f.	talent
मेधा	medhA	f.	mental vigour or power
मेधा	medhA	f.	intelligence
मेधा	medhA	f.	symbolical name of the letter dh
मेधा	medhA	f.	Intelligence personified
मेधा	medhA	f.	form of dAkSAyaNI in kasmIra
मेधा	medhA	f.	wisdom

(http://spokensanskrit.de/index.php?beginning=0+&tinput=+medhA&trans=Translate)

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Various references of Medha from ancient texts –

1. In **Atharvaveda** –

Medhajanana Sukta is the first sukta mentioned in Atharvaveda.

(१) प्रथम सूक्तम्

(१-४) चतुर्ऋचस्यास्य सूक्तस्याथर्वा ऋषिः । वाचस्पतिर्देवता । (१-३)
प्रथमादितृचस्यानुष्टुप् (४) चतुर्थ्या ऋचश्च चतुष्पदा विराडुरोबृहती छन्दसी ॥

ये त्रिष्प्ताः परि॑यन्ति॒ विश्वा॑ रू॒पाणि॒ बिभ्र॑तः ।
वा॒च॒स्पति॒र्बला॒ तेषां॑ त॒न्वो॑ अ॒द्य द॑धातु मे ॥१॥

पुन॑रे॒हि॑ वचस्पते दे॒वेन॒ मन॑सा स॒ह ।
वसो॑ष्प॒ते॒ नि र॑मय॒ मय्ये॒वास्तु॒ मयि॑ श्रु॒तम् ॥२॥

इ॒हैवाभि वि त॑नू॒भे आ॒र्त्नी इ॑व॒ ज्यया॑ ।
वा॒च॒स्पति॒र्नि य॑च्छतु॒ मय्ये॒वास्तु॒ मयि॑ श्रु॒तम् ॥३॥

उप॑हूतो॒ वाचस्पतिरुपा॒स्मान्वाचस्पति॒र्ह्व॑यताम् ।
सं श्रु॒तेन॑ गमेम॒हि मा श्रु॒तेन॒ वि रा॑धिषि ॥४॥

Medhavardhana sukta is mentioned in 6th Kanda of Atharvaveda.

(१०८) अष्टोत्तरशततमं सूक्तम्

(१-५) पञ्चर्चस्यास्य सूक्तस्य शौनक ऋषिः । (१-३, ५) प्रथमादितृचस्य पञ्चम्या
ऋचश्च मेधा (४) चतुर्थ्याश्चाग्निर्देवते । (१, ४-५) प्रथमाचतुर्थीपञ्चमीनामनुष्टुप्
(२) द्वितीयाया उरोबृहती (३) तृतीयायाश्च पथ्याबृहती छन्दांसि

त्वं नो॑ मेधे प्रथ॒मा गोभि॒रश्वे॑भिरा ग॑हि ।
त्वं सूर्य॑स्य र॒श्मिभि॒स्त्वं नो॑ असि य॒ज्ञिया॑ ॥१॥

मे॒धाम॒हं प्रथ॒मां ब्रह्म॒ण्वतीं॒ ब्रह्म॑जूताम॒ृषिष्टु॑ताम् ।
प्र॒पीतां॑ ब्रह्म॒चारि॑भिर्दे॒वाना॒मव॑से हुवे ॥२॥

यां मे॒धाम॒ृभवो॑ वि॒दुर्या॑ मे॒धाम॒सुरा॑ वि॒दुः ।
ऋष॑यो भ॒द्रां मे॒धां या विदुस्तां म॒य्या वे॒शयामसि ॥३॥

या॒मृष॑यो भू॒तकृ॑तो मे॒धां मे॒धावि॑नो वि॒दुः ।
तया॒ माम॒द्य मे॒धयाग्ने मे॒धावि॑नं कृणु ॥४॥

मे॒धां सा॒यं मे॒धां प्रा॒तर्मे॒धां म॒ध्यन्दि॑नं॒ परि॑ ।
मे॒धां सूर्य॑स्य र॒श्मिभि॒र्वच॑सा वे॒शयामहे ॥५॥

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2. Medha in **Mundakopanishada** –

नायमात्मा प्रवचनेन लभ्यो न **मेधया** न बहुनाश्रुतेन ।

यमेवैष वृणुते तेन लभ्यः तस्यैष आत्मा विवृणुते तनुं स्वाम् ॥

In Mundakopanishada in context with explaining Atma Medha word has been mentioned.

3. In **Agnipurana** –

कीर्तिर्लक्ष्मीर्धृतिर्**मेधा** पुष्टिः श्रद्धा क्रिया मता ।

Medha is mentioned in Ganabheda Nama Adhyaya while mentioning the names of Daksha's daughters.

4. In **Garuda Puran** –

शंखपुष्पी वचा सोमा ब्रह्मी ब्रह्मसुवर्चला ।
अभया च गुडूची च अटरूषक बाकुची ॥
ऐतैरक्षसमैर्भागैः घृतं प्रस्थं विपाचयेत् ।
कण्टकार्या रसं प्रस्थं बृहत्या च समन्वितम् ॥
ऐतद् ब्राह्मीघृतं नाम स्मृति**मेधा**करं परम् ।

While mentioning Brahmighruta in 168th Adhyaya, in Phalashruti it's told that the Ghruta helps in improving Medha.

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4. Meaning of Medha as explained in Ayurveda –

मेंधा = धारणवती धीः ।	च.सू.२७/३५० - चक्रपाणि
मेंधा = ग्रन्थाकर्षणसामर्थ्यम् ।	सु.सू.१५/४ - डल्हण
मेंधा = ग्रन्थावधारणकर्षणसामर्थ्यम् ।	सु.सू.२/३ - डल्हण
मेंधा = ग्रन्थधारणशक्ति ।	सु.सू.४५/९८ - डल्हण
मेंधा = ग्रन्थावधारणशक्तिः ।	सु.शा.१/१८- डल्हण
मेंधा = सर्वतोऽव्याहता सूक्ष्मतमा प्रगाढा बुद्धिः श्रुतधारिणि।	सु.चि.२८/१ - डल्हण
मेंधा = प्रज्ञा वस्तुविवेकशक्तिः ।	अ.सं.सू.६/४३ - इंदु
मेंधा = धारणशक्तिः ।	अ.ह.सू.५/२२ - अरुणदत्त

Based on all above references the meaning of Medha is understood as grasping power of an individual. Capacity of a person to understand the explanation is Medha. There are various aspects of intellect, as explained in classics. Out of all Medha is retaining capacity of an individual.

Other aspects of Buddhi

बुद्धि = बुध् + क्तिन् ।

स्त्री. बुध्यतेऽनयेति ।   शब्दकल्पद्रुम

The faculty responsible for knowledge is Buddhi.

निश्चयात्मिका अन्तःकरणवृत्तिः ।   वेदान्तः

Buddhi means the capacity of mind to take the decisions.

बुद्धिर्विवेचनारूपा सा ज्ञानजननी श्रुतौ ।   ब्रह्मवैवर्तपुराण-प्रकृतिखण्ड-
अध्याय-२३

Ability to segregate & gain the knowledge is Buddhi.

अन्तःकरणे ।

सुश्रुषा श्रवणंचैव ग्रहणं धारणं तथा ।
ऊहापोहार्थविज्ञानं तत्वज्ञानञ्च धीगुणाः ॥   वैद्यकशब्दसिन्धु

To serve, to listen, to grasp, to hold, to analyze & to understand the principle are the properties of Buddhi.

Ayurveda context:

बुद्धिः = प्रज्ञा ।   च.सू.१/५४ - चक्रपाणि

बुद्धिः = ज्ञानम् ।   च.सू.१/४९ - चक्रपाणि

धीधृतिस्मृतयः प्रज्ञाभेदाः ।   च.शा.१/९८ - चक्रपाणि

According to Acharya Chakrapani, Buddhi means the tool for real knowledge. It is a type of Prajna, which means intellect which stands true at all times.

प्रज्ञा = कालत्रयात्मिका बुद्धिः।   सु.सू.३५/१६ -डल्हण

धीः - स्त्री. बुद्धौ । उपदिष्टग्रहणे शक्तिः ।   अमरः ।

पर्यायाः - धिषणा, धीः, प्रज्ञा, मतिः, शेमुषी, चेतना, प्रेक्षा, उपलब्धिः, चित्, सम्बित्, प्रतिपत्, ज्ञप्तिः इति अमरः ।

धृति: = धृतिर्हि नियमात्मिका ।   च.शा.१/१००

The ability to regulate the mind is Dhruti.

स्मृतिः = दृष्टश्रुतानुभूतानां स्मरणात् स्मृतिरुच्यते ।   च.शा.१/१४९

Ability to recall the seen, heard & experienced things is called as Smruti.

To sum up the meaning of Buddhi based on classical references, it is the mental ability to understand the things in all aspects. It is also the alertness to gain the knowledge & use the knowledge for the benefit of oneself. The aspects of Buddhi are Smruti, Dhruti, Dhee, and Medha.

Medhavardhan Sukta

(१०८) अष्टोत्तरशततमं सूक्तम्

(१-५) पञ्चर्चस्यास्य सूक्तस्य शौनक ऋषिः । (१-३, ५) प्रथमादितृचस्य पञ्चम्या
ऋचश्च मेधा (४) चतुर्थ्याश्चाग्निर्देवते । (१, ४-५) प्रथमाचतुर्थीपञ्चमीनामनुष्टुप
(२) द्वितीयाया उरोबृहती (३) तृतीयायाश्च पथ्याबृहती छन्दांसि

त्वं नौ मेधे प्रथमा गोभिरश्वेभिरा गहि ।
त्वं सूर्यस्य रश्मिभिस्त्वं नौ असि यज्ञिया ॥१॥

मेधामहं प्रथमां ब्रह्मणवतीं ब्रह्मजूतामृषिष्टुताम् ।
प्रपीतां ब्रह्मचारिभिर्देवानामवसे हुवे ॥२॥

यां मेधामृभवो विदुर्यां मेधामसुरा विदुः ।
ऋषयो भद्रां मेधां यां विदुस्तां मय्या वेशयामसि ॥३॥

यामृषयो भूतकृतो मेधां मेधाविनो विदुः ।
तया मामद्य मेधयाग्ने मेधाविनं कृणु ॥४॥

मेधां सायं मेधां प्रातर्मेधां मध्यन्दिनं परि ।
मेधां सूर्यस्य रश्मिभिर्वर्चसा वेशयामहे ॥५॥

Medhavardhan Sukta is mentioned in 6th Kanda of Atharvaveda. It is 108th Sukta. It contains 5 Sutra (Shloka = verses). It is written in three different Chandas. Anushthup Chanda is seen in first, fourth & fifth Shloka. Second Shloka is in Urobruhati Chanda. Third Shloka is in Pathyabruhati Chanda.

Devata of this Chanda are Medha (wisdom) & Agni. First three & fifth Shloka is dedicated to Medha. Fourth Shloka is offering Medhagni. The Agni is entity which maintains Medha. Meaning of Medhavardhan Sukta is as follows-

Do you, O Medha, come first to us, with cows, horses; you with the rays of sun; you are worshipful to us.

Here Medha is explained as Shrutadharanasamarthyaroopini Devi i.e. the power which enables us to retain the heard things. There finds a Luptopama (elliptical

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comparison): as the rays of sun quickly pervade the whole world, so come to us, O Medha, with own capacities able to pervade all subjects.

I call first, the aid of Gods, wisdom filled with Brahma, quickened by Prapita (father) Brahma, praised by seers, studied by Vedic students.

The wisdom that the Ribhus (sages), the wisdom that Asuras (Gods) know, the excellent wisdom that the seers know, that do we cause to enter into me.

The wisdom that the being making seers, possessed of wisdom, know- with that wisdom do you make me today, O Agni, possessed of wisdom.

Wisdom at evening, wisdom at morning, wisdom in the noon, wisdom by the rays of sun, by the spell (Vacha), do we make enter into us.

Naradiya Ganesha Stotra

प्रणम्य शिरसा देवं गौरीपुत्रं विनायकम् ।

भक्त्या व्यासः स्मरेन्नित्यमायुःकामार्थसिद्धये ॥

प्रथमं वक्रतुंडं च ऐकदन्तं द्वितीयकम् ।

तृतीयं कृष्णपिंगाक्षं गजवक्त्रं चतुर्थकम् ॥

लम्बोदरं पंचमं च षष्ठं विकटमेव च ।

सप्तमं विघ्नराजेन्द्रं धूम्रवर्णं तथाष्टमम् ॥

नवमं भालचंद्रं च दशमं तु विनायकम् ।

ऐकादशं गणपतिं द्वादशं तु गजाननम् ॥

द्वादशैतानि नामानि त्रिसंध्यं यः पठेन्नरः ।

न च विघ्नभयं तस्य सर्वसिद्धिकरं प्रभो ॥

विद्यार्थी लभते विद्यां धनार्थी लभते धनम् ।

पुत्रार्थी लभते पुत्रान् मोक्षार्थी लभते गतिम् ॥

जपेत् गणपतिस्तोत्रं षड्भिर्मासैः फलं लभेत् ।

संवत्सरेण सिद्धिम् च लभतें नात्र संशयः ॥

अष्टभ्यो ब्राह्मणेभ्यश्च लिखित्वा यः समर्पयेत् ।

तस्य विद्या भवेत् सर्वा गणेशस्य प्रसादतः ॥

॥ इति श्री नारदपुराणे गणेशस्तोत्रं संपूर्णम् ॥

Naradiya Ganedha Stotra is mentioned by Naradamuni in Naradapurana. The complete Stotra is written in Anushtup Chanda.

'Sage Vyasa always offers Pranama (Namaskara) with utmost Bhakti (devotion) to the son of Goddess Gauri, Vinayaka, for long life, accomplishment of all wishes and wealth.

Ganesha is called by several names. First is Vakratunda. Next is Ekadanta (having one tooth), then Krushnapingaksha (black-brownish eyed), fourth is Gajavaktra (having the face of elephant), fifth is Lambodara (having broad abdomen), sixth Vikata, seventh is Vighnarajendra (one who clears all the obstacles), eighth is Dhoomravarna (having the complexion like smolder), ninth is Bhalachandra (having moon on the head), tenth is Vinayaka, eleventh is Ganapati (lord of devotees), twelfth is Gajanana (having the face of elephant).

The person, who chants all these names during Sandhyavandana, does not have obstacles in the works. He gets success in all his accomplishments. Vidyarthi (student) gets Vidya (knowledge), one who desires money gets it, one who wishes children acquires them, one who is trying to achieve Moksha (utmost freedom) finds the path for the same.

Japa (continuous chanting) of this Ganapati Stotra gives fruitful result in six months. In a year, if continued, the person achieves Siddhi (special powers). One who writes this Stotra & offers to eight Brahmanas (righteous persons) gets all types of knowledge which he is trying to achieve.

Study of Mantraviniyoga Paddhati

To study the Mantraviniyoga Paddhati one must be aware of the Chandas. These are the chanting styles of Mantras. Chanda Shastra of Pingalacharya is a well-known classical Sanskrit treatise. It deals with the rhythmic syllable arrangements in poetic meters. According to Chanda-Shastra, every pronounced letter is either Hrasva or Deergha or Pluta.

One of the great visionary Pingalacharya thus presents first known description of patterns of binary sequences in the context of syllable arrangements through poetic meters. Later the 10th century mathematician Halayudha wrote a commentary on the Chanda Shastra and expanded it. Halayudha's commentary includes a presentation of meruprastāra or the Pascal's triangle as well as the basic ideas of Fibonacci number (called mātrāmeru in Pingala's text).

The main topic of Chandas consists of two types: Vrutta (based on number of letters) and Jati (based on matra or phonetics). Single Jati may have multiple Vrutta.

छदि - आह्लादनें ।

छन्दयति आह्लादयति इति ।   शब्दकल्पद्रुम

One which (chanting style) gratifies the mind is Chanda.

Vaidik & Loukik Sanskrit literatures are based on Chandas. Regulation of Vani (speech) by Akshar (letters) is Chanda.

अक्षरेण मिमतें सप्तवाणी अक्षरेणैव सप्तवाणीः। वागधिष्ठितानि सप्त छन्दांसि मिमतें ॥

मिमतें निर्माणं कुर्वन्ति सामन् ।   शतपथ ब्राह्मण

According to Shatapatha Brahman, Chandas are originated from Vani (speech).

There are various types of Chanda based on number of Akshar (letters) it contains. Few of these are as follows:

Sl No	Chandas	Akshar Sankhya	Example
1.	Gayatri	(8X3) = 24	१. ऐकदन्ताय विद्महे वक्रतुण्डाय धीमहि तन्नो दन्तिः प्रचोदयात् । २. नारायणाय विद्महे वासुदेवाय धीमहि तन्नो विष्णुः प्रचोदयात् ।
2.	Anushthup	(8X4) =32	१. प्रणम्य शिरसा देवं गौरीपुत्रं विनायकम् । भक्तावासं स्मरेन्नित्यम् आयुःकामार्थसिद्धये ॥ २. अहं वैश्वानरो भूत्वा प्राणिनां देहमाश्रिताः। प्राणापानसमायुक्तः पचाम्यन्नैश्चतुर्विधम् ॥
3.	Trishtubh	(11X4) = 44	१. मनोजवं मारुततुल्यवेगं जितेन्द्रियं बुद्धिमतां वरिष्ठम्। वातात्मजं वानरयूथमुख्यं श्रीरामदूतं शरणं प्रपद्ये ॥ २. रागादिरोगान् सततानुशक्तान् अशेषकायः प्रसृतानशेषान्। औत्सुक्यमोहारतिदाञ्जघान योऽपूर्ववैद्याय नमोऽस्तु तस्मै ॥
4.	Jagati	(12X4) = 48	१. नमामीशमीशाननिर्वाणरूपं विभुं व्यापकं ब्रह्मवेदस्वरूपम्। अजं निर्गुणं निर्विकल्पं निरीहं चिदाकाशमाकाशवासं भजेहम्॥ २. गणाधीश जो ईश सर्वा गुणांचा मुळारम्भ आरम्भ तो निर्गुणाचा । नमू शारदा मूळ चत्वार वाचा गमू पन्थ आनन्त या राघवाचा ॥

These all are commonly & frequently used Chandas. In above table Chanda, total numbers of Pada & Akshar in each Chanda are illustrated with examples.

Gayatri Chanda contains three Pada, each of eight Akshar (letters). Totally it contains 24 Akshar.

Anushtup Chanda is having four Pada. Each Pada contains eight letters. Thus has 32 letters in total.

Among all these Chandas, Anushtup is of prime importance. To highlight its importance Brahman Granthas quote many references saying that Vani & Anushtup are one & the same. Means Anushtup is so frequently used that to spread Vani (speech), naturally Anushtup plays the key role.

Trishtubh Chanda has four Pada. Each Pada has 11 letters, thus comprises 44 letters over all.

In Jagati Chanda 48 letters are present entirely. Four Pada, each one includes 12 letters.

There are still many Chanda observed in the literature. These are:

Sl No	Chanda	Akshar Samkhya
5.	Ushnik	28
6.	Bruhati	36
7.	Pankti	40

Significance of Chanda

Importance of knowledge of Chanda is three dimensional. First is Chandas protect the meanings of Ved Mantra.

छन्दांसि छादनात् ।   यास्ककृत् निरुक्त

As if Chandas give covering to the meanings of Ved Mantra.

Second dimension is, because of Chandas the Mantra becomes pleasant for listening, thus gratifying Manas.

छन्दयति कृणाति सेचतें इति छन्दः ।   शब्दकल्पद्रुम

Third dimension is, if the Mantras are chanted with proper Chanda, Stutya Devata (deity) becomes Prasanna (blissful). This is why Chanda is one of the Vedanga.

Intelligence

The ability to learn or appreciate things, the act of understanding is Medha. Intelligence means capacity of an individual to gain the knowledge, understand, analyse and apply. The application is in the form of learning the new things, emotional balance, self awareness, communication, memory, creativity and problem solving.

It can be more generally described as the ability to perceive information, and retain it as knowledge to be applied towards adaptive behaviors within an environment.

Intelligence is most widely studied in humans, but has also been observed in non-human animals and in plants.

Within the discipline of psychology, various approaches to human intelligence have been adopted. The psychometric approach is especially familiar to the general public, as well as being the most researched and by far the most widely used in practical settings[1].

Researcher[2]	Quotation
Alfred Binet	Judgment, otherwise called "good sense," "practical sense," "initiative," the faculty of adapting one's self to circumstances ... auto-critique.
David Wechsler	The aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment.
Lloyd Humphreys	"...the resultant of the process of acquiring, storing in memory, retrieving, combining, comparing, and using in new contexts information and conceptual skills."
Cyril Burt	Innate general cognitive ability.

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[1] (https://en.wikipedia.org/wiki/Intelligence) 28/01/2016: 2.30 pm

[2] (http://www.merriam-webster.com/dictionary/intelligence) 28/01/2016: 2.30 pm

Howard Gardner	To my mind, a human intellectual competence must entail a set of skills of problem solving — enabling the individual to resolve genuine problems or difficulties that he or she encounters and, when appropriate, to create an effective product — and must also entail the potential for finding or creating problems — and thereby laying the groundwork for the acquisition of new knowledge.
Linda Gottfredson	The ability to deal with cognitive complexity.
Sternberg & Salter	Goal-directed adaptive behavior.
Reuven Feuerstein	The theory of Structural Cognitive Modifiability describes intelligence as "the unique propensity of human beings to change or modify the structure of their cognitive functioning to adapt to the changing demands of a life situation."
Charles Spearman	"...all branches of intellectual activity have in common one fundamental function, whereas the remaining or specific elements of the activity seem in every case to be wholly different from that in all the others."

Human intelligence is the intellectual capacity of humans, which is characterized by perception, consciousness, self-awareness, and volition. Intelligence enables humans to remember descriptions of things and use those descriptions in future behaviors. It is a cognitive process. It gives humans the cognitive abilities to learn, form concepts, understand and reason, including the capacities to recognize patterns, comprehend ideas, plan, problem solve and use language to communicate. Intelligence enables humans to experience and think.

Intelligence can be defined as a person's cognitive abilities to learn. It is also associated with school performance, IQ, logic, abstract thought, self-awareness, emotional knowledge, memory, planning, creativity, and problem solving.

Intelligence plays a key role in predicting our abilities and future. Alfred Binet set up intelligence test. When we combine the ideas of intelligence and culture, culture has one of the biggest impacts on cognitive development.

Medha can be correlated with the term 'Understanding' as per the definition. Understanding (also called intellect) is a psychological process related to an abstract or physical object, such as a person, situation or message whereby one is able to think about it and use concepts to deal adequately with that object.

Understanding is a relation between the knower and an object of understanding. Understanding implies abilities and dispositions with respect to an object of knowledge sufficient to support intelligent behavior.

An understanding is the limit of a conceptualization. To understand something is to have conceptualized it to a given measure[3].

Cognition and affect[4]

Cognition is the process by which sensory inputs are transformed. Affect refers to the experience of feelings or emotions. Cognition and affect constitute understanding.

Cognition is the set of all mental abilities and processes related to knowledge, attention, memory and working memory, judgment and evaluation, reasoning and "computation", problem solving and decision making, comprehension and production of language, etc. Human cognition is conscious and unconscious, concrete or abstract, as well as intuitive (like knowledge of a language) and conceptual (like a model of a language). Cognitive processes use existing knowledge and generate new knowledge.

Within psychology and philosophy, the concept of cognition is closely related to abstract concepts such as mind and intelligence. It encompasses the mental functions, mental processes (thoughts), and states of intelligent entities (humans, collaborative groups, human organizations, highly autonomous machines, and artificial intelligences).

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[3] (https://en.wikipedia.org/wiki/Understanding#Components_of_understanding)28/01/2016:2.30 pm

[4] (https://en.wikipedia.org/wiki/Cognition) 28/01/2016: 2.30 pm

Thus, the term's usage varies across disciplines; for example, in psychology and cognitive science, "cognition" usually refers to an information processing view of an individual's psychological functions. It is also used in a branch of social psychology called social cognition to explain attitudes, attribution, and group dynamics. In cognitive psychology and cognitive engineering, cognition is typically assumed to be information processing in a participant's or operator's mind or brain.

BinetKamath Test

Binet-Kamath intelligence scale

Binet-Kamath Intelligence scale was used to assess the intellectual development of school children. It is the most widely used intelligence scale.

This scale which has its basis on the Stansford–Binetscale, has been standardized on the Indian population and has Indian norms. It concentrates on verbal and simple manipulative tasks to test and assess complex intellectual processes such as judgment, reasoning, memory, comprehension, word definition and problem solving. It covers a span of three years to adult hood.

Six test items are presented in each age. The investigator has to start with the tests for three year olds and proceed to the items of the next levels till the child does none. Each test item carries a score of 2 months till the age of 10 years. From 10 years to 16 years each test item carries a score of 4 months. From 16 years to 22 years each test item carries a score of 6 months. The age at which the child completes all the 6 items will be considered as the basal age. The mental age will be calculated by adding scores each for the total number of completed items along with the basal age. Then the intelligence Quotient (IQ) can be calculated using the formula, where MA is the mental age and CA is the chronological age.

Intelligence I.Q = (Mental age / Chronological age) X 100

Example:

A child of 15 years 5 months (totally 185 months) gives correct answers to all questions for age 12 years, so basal age is 12 years. The child also gives answers to 5 questions from 14 years, 5 questions from 16 years (adult range), 4 questions from 19 years (superior adult range) & 3 questions from 22 years (exceptional adult range). So to calculate the mental age as follows:

- All questions from 12 years =   12 years   0   months (basal age)
- 5 questions from 14 years =   1 years   8 months
- 5 questions from 16 years =   2 years   8 months

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- 4 questions from 19 years =   2 years   0 months
- 3 questions from 22 years =   1 years   6 months

Total mental age =   18 years   10 months

Age in months =   226

Intelligent quotient   = (mental age in months /chronological age) X 100

                               = (226/185) X 100

           I.Q.   = 122.2

Observations & results

From the data collected, following observations were found.

IQ before intervention in groups –

IQ before	Experimental group	Control group
87.0 – 89.99	5	2
90.0 – 92.50	12	13
92.51 – 94.99	25	30
95.00 – 97.50	22	35
97.51 – 99.99	15	14
100.0 – 102.50	13	3
102.51 – 104.99	5	2
105.0 – 107.50	1	1
107.51 – 110	0	0
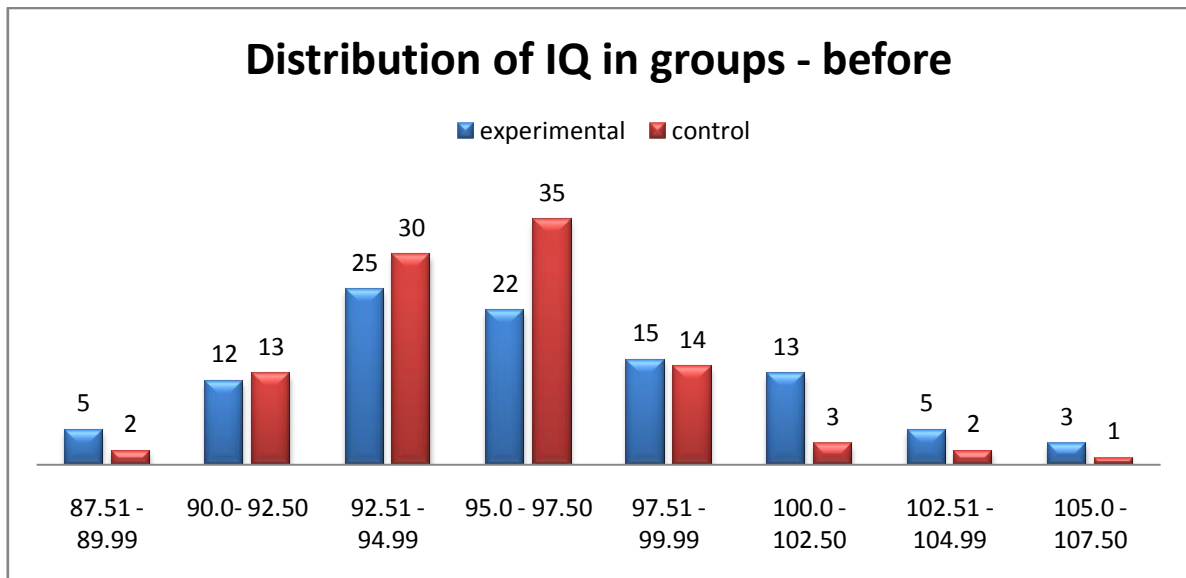
87.51 was the lowest intelligence quotient (IQ) found before the intervention. Whereas 107.5 was the highest IQ before the intervention. For convenience the ranges are divided in the intervals of 2.5 units.

Before intervention in experimental group the respondents having IQ in the range of 87.51 to 89.99 were 5 & in control group there were 2 in the same range. In the next range i.e. from 90 to 92.50, 12 individuals were found in experimental group & 13 in the control group. In the range 92.51 to 94.99, 25 were found in experimental group & 30 were found in control group. In the next range 95.0 to 97.50, 22 were found to have IQ in this range from experimental group & 35 from the control group. In the experimental group 15 respondents were having IQ in the range of 97.51 to 99.99. 14 respondents from the control group were in

this range. 13 respondents from experimental group were having IQ in next range of 100 to 102.5. From the control group 3 respondents were in this range. In the next range of 102.51 to 104.99, there were 5 respondents from experimental group & 2 from the control group. 3 respondents from experimental group were having IQ in next range of 105 to 107.5, & 1 from the control group was having IQ in this range.

IQ after intervention in groups –

IQ after	Experimental group	Control group
87.0 – 89.99	**0**	**0**
90.0 – 92.50	2	2
92.51 – 94.99	4	5
95.00 – 97.50	12	12
97.51 – 99.99	24	30
100.0 – 102.50	23	24
102.51 – 104.99	23	19
105.0 – 107.50	13	6
107.51 – 110	**1**	**1**
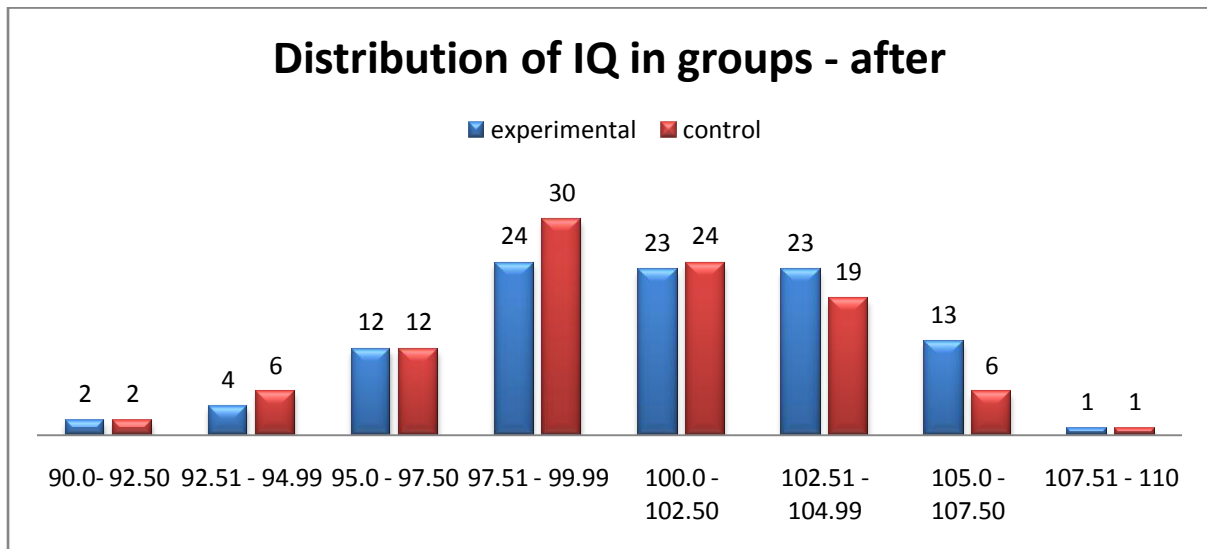
After intervention in experimental group the respondents having IQ in the range of 90 to 92.50 were 2 & in control group also 2. 4 individuals were found in experimental group & 6 in the control group having IQ in the range 92.51 to 94.99. 12 respondents each were found in experimental & control groups having in the next range 95.0 to 97.50. 24 respondents in experimental group & 30 respondents from control group were found to have IQ in the range 97.51 to 99.99. In the experimental group 23 respondents were having IQ in the range of 100 to 102.5. 24 respondents from the control group were having IQ in this range. 13 respondents from experimental group & 6 respondents from control group were having IQ in next range

of 105 to 107.50. 1 respondent was found in each group to have IQ in the range 107.51 to 110.

Before & after difference in IQ in groups

Improvement in IQ	Experimental group	Control group
Negative	1	1
0-0.9	0	1
1-1.9	23	16
2-2.9	0	0
3-3.9	23	32
4-4.9	22	20
5-5.9	2	0
6-6.9	23	23
7-7.9	1	0
8-8.9	1	0
9-9.9	4	5
10 & more	0	2
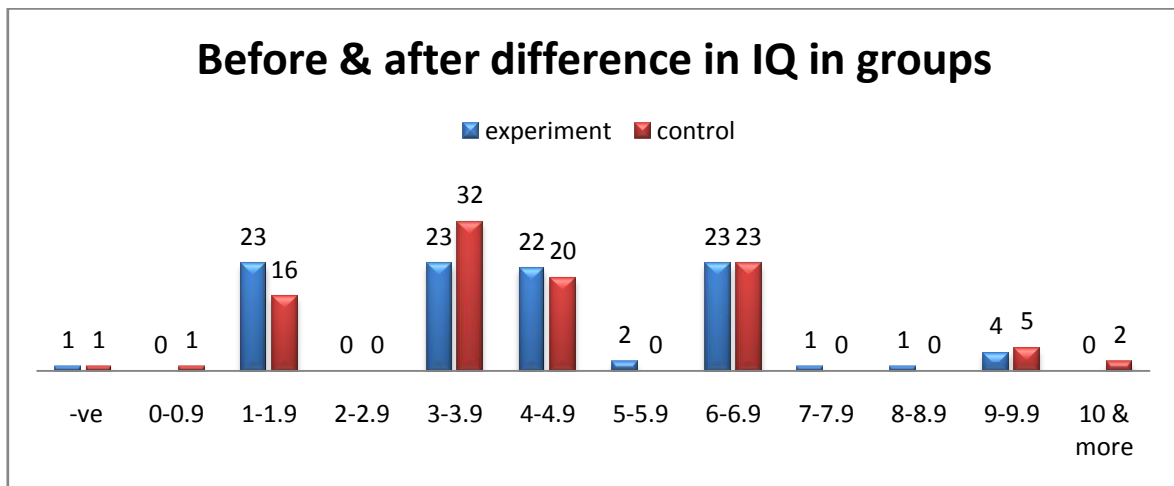
1 respondent each from experimental & control groups showed negative progress in the IQ. Improvement in IQ by 0 to 0.9 was observed in 1 respondent from control group. 23 respondents from experimental group & 16 from control group showed improvement in IQ by 1 to 1.9. 23 respondents from experimental group & 32 from control group showed improvement in IQ by 3 to 3.9. In experimental group 22 respondents & in control group 20 respondents showed improvement in IQ by 4 to 4.9 range. 2 respondents from experimental group showed improvement in IQ in the range 5 to 5.9. 23 respondents in each group showed improvement in IQ in the range 6 to 6.9. 1 respondent from experimental group showed improvement in IQ in the range 7 to 7.9 & also in 8 to 8.9. Improvement in IQ by 9 to 9.9 was seen in 4 respondents from experimental group & 5 respondents in control group. 2 respondents in control group showed improvement by 10 in the IQ.

Comparison between before and after IQ –

In experimental group –

Wilcoxon signed ranks test –

For experimental group -

		N	Mean Rank	Sum of Ranks
IQ after – IQ before	Negative Ranks	1(a)	23.00	23.00
	Positive Ranks	99(b)	50.78	5027.00
	Ties	0(c)		
	Total	100		

	IQ after – IQ before
Z	-8.603(a)
Asymp. Sig. (2-tailed)	.000

Wilcoxon signed rank test is significant for before and after IQ in experimental group. **(Value is 0.000).**

This test indicates that there is significant increase in IQ after intervention of Medhavardhana Sukta.

Wilcoxon Signed Ranks Test –
For control group –

		N	Mean Rank	Sum of Ranks
IQafter - IQbefore	Negative Ranks	1(a)	2.00	2.00
	Positive Ranks	99(b)	50.99	5048.00
	Ties	0(c)		
	Total	100		

	IQ after – IQ before
Z	-8.675(a)
Asymp. Sig. (2-tailed)	.000

Wilcoxon signed rank test is significant for before and after IQ in control group. (value is 0.000) this test indicates that there is significant increase in IQ after intervention of Naradiya Ganesh Sukta.

Mann-Whitney Test – comparison between the groups.

	case control	N	Mean Rank	Sum of Ranks
IQbefore	control	100	93.71	9371.00
	Case	100	107.29	10729.00
	Total	200		
IQafter	control	100	94.41	9440.50
	Case	100	106.60	10659.50
	Total	200		

	IQ before	IQ after
Mann-Whitney U	4321.000	4390.500
Wilcoxon W	9371.000	9440.500
Z	-1.659	-1.490
Asymp. Sig. (2-tailed)	.097	.136

Mann – Whitney test is not significant for two groups – experimental and control (0.097 & 0.136). This test indicates that there is no significant difference in experimental and control group after intervention. As in both groups, there is significant increase in after IQ.

This shows that effects of Medhavardhan Sukta and Naradiya Ganesha Stotra both have shown improvement in IQ.

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Discussion on conceptual study

Pariksha:

इमानि खलु तावदिह कानिचित् प्रकरणानि भिषजां ज्ञानार्थमुपदेक्ष्यामः ।

ज्ञानपूर्वकं हि कर्मणां समारम्भं प्रशंसन्ति कुशलाः ।

च.वि.८/६८

भिषक् कार्यं चिकिर्षुः प्राक् कार्यसमारम्भात् परीक्षया केवलं परीक्ष्यं परीक्ष्य कर्म समारभेत कर्तुम् ।

च.वि.८/७९

Here are several topics, important for Bhishak-Jnana (knowledge of physician), as Jnana-Purvaka Chkitsa-Karma Arambha is honored by Scholars of Ayurveda.

The Vaidya who desires Chikitsa-Karya, should examine all the Parikshya Bhava before starting the Chikitsa-Karya.

Ayurvediya Vividha Pariksha:

द्विविध परीक्षा	प्रत्यक्षम्, अनुमानं च ।	च.वि.८/८३
त्रिविध परीक्षा	१) प्रत्यक्षम्, अनुमानम्, आप्तोपदेशः । २) दर्शन– स्पर्शन– प्रश्नैः ।	च.वि.८/८३ च.चि.२५/२२
पञ्चविध परीक्षा	निदान, पूर्वरूप, रूप, उपशय, सम्प्राप्ति	अ.हृ.सू.१/२२
षड्विध परीक्षा	पञ्चभिः श्रोत्रादिभिः, प्रश्नेन च ।	सु.सू.१०/४
अष्टविध परीक्षा	नाडी–मूत्रं–मलं–जिव्हां–शब्दं–स्पर्श–दृक्–आकृति ।	यो.र.
दशविध परीक्षा	१) प्रकृति–विकृति–सार–संहनन–प्रमाण–सात्म्य–सत्व–आहार–व्यायामशक्ति–वय । २) दूष्यं–देशं–बलं–कालम्–अनलं–प्रकृतिं–वयः–सत्वं–सात्म्यम्–आहारम् ।	च.वि.८/९४ अ.हृ.सू.१२/६७

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There are several entities which cannot be examined by Pratyaksha Pramana. Here we have to take the help of Anumanadi Pramana. 'Medha' is mentioned as Anumanagamya Bhava by Acharya Charaka in fourth Adhyaya of Vimanasthana.

मेधां ग्रहणेन (परीक्षेत् ।)   च.वि.४/८

ग्रहणेन इति ग्रन्थादि धारणेन ।   चक्रपाणि

It is mentioned in Anumanagamya Bhava. Its citation suggests that Medha is one of the important entities to be examined for the Chikitsa.

Medha according to Acharya is 'Granthavadharana Samarthya', as explained in detail in the review of Medha. Medhavardhan Sukta mentioned in sixth Kanda of Atharvaveda is intended to improve this quality of 'Grahana', as rightly mentioned in the commentary of Medhavardhana Sukta – 'Shrutadharanasamarthyaroopini Devi'. It has been called as Goddess. This shows the importance & the spiritual base behind the Sukta.

Nitya Pathana (daily chanting) of Medhavardhana Sukta is suppose to help improve the retaining capacity of the individual.

Probable mode of action of divine Mantra chanting

To understand probable mode of action of Medhavardhana Sukta Pathana on Medha, one must know the process of Shabda Utpatti (physiology of speech) according to Shastra. It is explained as:

आत्मा बुद्ध्या समेत्यार्थान् मनो युङ्क्ते विवक्षया ।

मनः कायाग्निमाहन्ति स प्रेरयति मारुतः ॥

मारुतस्तूरसि चरन् मन्द्रं जनयति स्वरम् ।

सोदीर्णो मूर्ध्न्यभिहतो वक्त्रमापद्य मारुतः ॥

वर्णाञ्जनयते, तेषां विभागः पञ्चधा श्रृणु ।

अष्टौ स्थानानि वर्णानाम् उरः कण्ठशिरस्तथा ॥

जिव्हामूलं च दन्ताश्च नासिकोष्ठौ च तालु च ।

पाणिनीय शिक्षा ६/१३

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Examination of Vishaya by Atma & Buddhi

↓

Atma along with Buddhi makes Manas to indulge in Vishaya

↓

Mana kindles Kayagni.

↓

It gives stimulus to Vayu

↓

Vayu moves in the Uras (thorax region)

↓

In Uras Vayu generates Mandra (yielding) Swara (resonance.)

↓

Produced by Vata Dosha in Uras, Swara moves to Moordha

↓

Getting the way to Moordha words are expressed as speech by Vaktra (mouth)

From the above explanation one can understand there are several vital factors involved in the Shabdotpatti (production of voice). These are Buddhi, Manas, Agni and Vayu. i.e. psychological & physiological factors.

Vayu is very important for the process of production of sound. In particular Udana Vata is responsible for Vakpravrutti –

उरःस्थानमुदानस्य नासानाभिगलांश्चरेत् ।

वाक्प्रवृत्ति प्रयत्नोर्जा बलवर्णस्मृतिक्रियः ॥   अ.ह्र.सू.१२/५

वायुः . . . प्रकृतिः स्पर्शशब्दयोः ।

सर्वेन्द्रियाणामुद्योजकः सर्वेन्द्रियार्थानाम् अभिवोढा । च.सू.१२/८

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Vacha i.e. speech is the function of Karmendriya Vak. It is controlled by Udana Vayu.

हस्तौ पादौ गुदोपस्थं वागिन्द्रियमथापि च|

कर्मेन्द्रियाणि पञ्चैव पादौ गमनकर्मणि||२५||

पायूपस्थं विसर्गार्थे हस्तौ ग्रहणधारणे|

जिह्वा वागिन्द्रियं वाक् च _ _ _ _ || च.शा.१

Agni is important for all the body functions. It is essential for the healthy life and all the physicochemical activities of body.

आयुर्वर्णो बलं स्वास्थ्यमुत्साहोपचयौ प्रभा|

ओजस्तेजोऽग्नयः प्राणाश्चोक्ता देहाग्निहेतुकाः|| च.चि.१५/३

The role of Mana is to mediate the functions of Indriya. In case of voice, it mediates the function of Vak Indriya.

इन्द्रियाभिग्रहः कर्म मनसः स्वस्य निग्रहः|

ऊहो विचारश्च, ततः परं बुद्धिः प्रवर्तते||२१|| च.शा.१

Role of Buddhi is to receive the Vishaya, analyze and reply in the form of speech or action.

इन्द्रियेणेन्द्रियार्थो हि समनस्केन गृह्यते|

कल्प्यते मनसा तूर्ध्वं गुणतो दोषतोऽथवा||२२||

जायते विषये तत्र या बुद्धिर्निश्चयात्मिका|

व्यवस्यति तया वक्तुं कर्तुं वा बुद्धिपूर्वकम्||२३|| च.शा.१

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Effect of divine Mantra with proper Mantra Uchcharana Paddhati (Chanda) in Rasayana Kala (in the morning) when the Sharir (body) & Mana (mind) are fresh, might help improve the quality of functions of these psychological & physiological factors.

Scientific investigation also found that Yoga Mantra (sutras of scriptures) and religious chanting (prayers) had positive influence on many physiological and psychological functions of the body. For example, during both prayers and mantras, there was an increase in the synchronicity of cardiovascular rhythms when they were recited 6 times a minute. There was also an increase in baroflex sensitivity. These findings suggested that the recitation of the rosary and certain yoga mantras, at specific frequencies, induce favorable psychological and physiological effects. (Bernardi L, Sleight P, Bandinelli G, Cencetti S, Fattorini L, Wdowczyc-Szulc J, et al. Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: Comparative study. BMJ. 2001; 323:1446–9.[PMC free article] [PubMed])

The significance of recitation of "Om" in twelve experienced meditators found subtle changes in mental state indicated by reduction in the skin resistance. (Telles S, Nagarathna R, Nagendra HR. Autonomic changes while mentally repeating two syllables: One meaningful and the other neutral. Indian J PhysiolPharmacol. 1998;42:57–63. [PubMed])

In a match paired control study using chanting Vedic hymns showed improvement in sustained attention in teenaged school students of residential setup of similar ambience. (Sripad G, Nagendra HR, Bhatta R, Vivekananda S, Samsthana YA, Bhawan E, et al. Effect of vedic chanting on memory and sustained attention. Indian J TraditKnowl. 2006;5:177–80.)

The attention processes involve network of brain regions such as the prefrontal and temporal (including the parahippocampal gyrus) cortices, in addition to the anterior cingulated gyros. (Filbey FM, Russell T, Morris RG, Murray RM, McDonald C. Functional magnetic resonance imaging (fMRI) of attention processes in presumed obligate carriers of schizophrenia: Preliminary findings. Ann Gen Psychiatry. 2008;7:18. [PMC free article] [PubMed])

During a selective attention task, decreased activation was found in several areas of the dorsolateral prefrontal cortex, anterior cingulate in addition to parietal areas.(Weiss EM, Siedentopf C, Golaszewski S, Mottaghy FM, Hofer A, Kremser C, et al. Brain activation patterns during a selective attention test-a functional MRI study in healthy volunteers and

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unmedicated patients during an acute episode of schizophrenia. Psychiatry Res. 2007;154:31–40. [PubMed])

A feeling of resonating effect during audible "OM" chanting found significant deactivation bilaterally in comparison to the resting brain state in bilateral orbitofrontal, anterior cingulated, para-hippocampal gyri, thalami, and hippocampi. The right amygdala too demonstrated significant deactivation. No significant activation was observed during "OM" chanting. In contrast, neither activation nor deactivation occurred in these brain regions during the comparative task – Namely the "ssss" pronunciation condition. (12. Kalyani BG, Venkatasubramanian G, Arasappa R, Rao NP, Kalmady SV, Behere RV, et al. Neurohemodynamic correlates of 'OM' chanting: A pilot functional magnetic resonance imaging study. Int J Yoga. 2011;4:3–6. [PMC free article] [PubMed])

The present study shows there is significant improvement Medha i.e. Grahanashakti (grasping power of mind) due to Medhavardhana Sukta chanting.

Probable mode of action of Medhavardhan Sukta & Naradiya Ganesha Stotra.

The role of Medhavardhan Sukta is to improve Medha (grasping power).

It is one of the steps in the Jnanagrahana (acquiring knowledge). It means understanding the heard, read, or seen things. The role of Ganesha Sukta is Vidyalabha (getting the knowledge & applying it properly). Next aspect is retention of acquired knowledge, it is called as Dhruti. Next step is to recall the acquired knowledge, which is Smruti. Application of all these is called as Buddhi.

The effect of chanting of these Mantra at particular time (morning) for particular period (90 days) might have regularized & improved the functions of Vayu, Agni, Mana & Buddhi as they are involved in the process of Shabdotpatti (production of sound) leading to improvement of Jnanagrahana Prakriya (process of gaining the knowledge) in the respondents. The seat of Manas is Moordha (brain) which controls the process of acquiring knowledge.

प्राणाः प्राणभृतां यत्र श्रिताः सर्वेन्द्रियाणि च|

यदुत्तमाङ्गमाङ्गानां शिरस्तदभिधीयते||१२|| च.सू.१७

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When Agni (Jatharagni = Pachakagni) is improved, which controls other forms of Agni including Sadhakagni. The functions of Sadhakagni are related to Buddhi, Medha etc. If the functions of Sadhakagni are improved, Medha, Buddhi etc definitely improve.

-तत्र पक्वामाशयमध्यगम्|

पञ्चभूतात्मकत्वेऽपि यत्तैजसगुणोदयात्||१०||

त्यक्तद्रवत्वं पाकादिकर्मणाऽनलशब्दितम्|

पचत्यन्नं विभजते सारकिट्टौ पृथक् तथा||११||

तत्रस्थमेव पित्तानां शेषाणामप्यनुग्रहम्|

करोति बलदानेन पाचकं नाम तत्स्मृतम्||१२|| अ.ह.सू.१२

बुद्धि**मेधा**भिमानाद्यैरभिप्रेतार्थसाधनात्||१३||

साधकं   हृद्गतं पित्तं-------------------------| अ.ह.सू.१२

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Discussion on observational study

200 apparently healthy respondents were selected. The study was done in two groups. These were divided randomly in two groups. The assessment criteria used was Binet Kamath Test for intelligence.

Group 1. – Experimental group – Medhavardhan Sukta

Group 2. – Control group – Naradiya Ganesha Stotra.

Change in IQ before and after –

In experimental group the improvement in IQ is significant (Z= 0.000), according to Wilcoxon signed test. This shows Medhavardhan Sukta is significant in the improvement of Medha, which is one of the aspects of intelligence.

In control group also, improvement in IQ is significant (Z= 0.000), according to Wilcoxon signed test. This shows Naradiya Ganesha Sukta is also significant in improvement of intelligence.

If the difference of change in the IQ of both groups is compared, it is not significant (Z= 0.136) according to Mann-Whitney test. This is because both the groups have shown significant increase in intelligent quotient, after intervention.

Even though Naradiya Ganesha Stotra is also significant in improvement of Medha, the need to chant the Medhavardhan Sukta is to preserve & carry on the knowledge from the Vedic heritage.

Summary

- The study entitled 'Assessment of effect of Medhavardhan Sukta mentioned in Atharvaveda in Swastha individuals is presented in two main sections - conceptual & observational.

- The conceptual study of Medhavardhana Sukta & Mantrochcharana Paddhati is done with the help of Chanda.

- The observational study is done in two groups:

- Group A: Medhavardhan Sukta Pathana (Atharvaveda): 100 volunteers.

- Group B: Naradiya Ganesha Stotra Pathana. (Narada Puran): 100 volunteers.

- Assessment of Medha is done with the help of Binet Kamat Test (BKT) for both the groups before the commencement of Pathana & after the completion of Pathana for 90 days.

- The data is analyzed with the help of Wilcoxon signed ranks test within the groups and Mann – Whitney test between the groups.

- Both the groups showed significant improvements in intelligent quotients of respondents.

- Probable mode of action of Mantrochcharana on Medha was discussed.

- Thus Medhavardhan Sukta proved to be helpful to improve the Medha.

Conclusion

- ❖ The Medhavardhan Sukta Pathana proved to be significant in the improvement of Medha in Swastha individuals, with z value 0.000 as per 'Wilcoxon signed rank' statistical test.

- ❖ Mantraviniyoga Paddhati was proved to play major role for the effect of Mantrochcharana.

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Binet Kamath Scale

CHAPTER TWENTY

TESTS FOR YEAR XVI (AVERAGE ADULT)

XVI. 1. Interpretation of Fables (8 marks.)

TEXT AND PROCEDURE

Same as in XII, 5.

XII, 5. Interpretation of Fables (4 marks). (2 correct or the equivalent in half- credits, each fables correctly interpreted carrying 2 marks. Time limit 2 minutes after final query is put.)

TEXT AND PROCEDURE

Say to the child,

'You know what a fable is? You have heard fables? A fables as you know is a little story, and is meant to teach us a lesson. Now I am going to read a fable to you. Listen carefully and when I am through I will ask you to tell me what lesson the fable teaches us. Ready; listen.
(a) 'Hercules and the Wagoner,

'A man was driving along a country road, when the wheels suddenly sank in a deep rut. The man did nothing but look at the wagon and call loudly to Hercules to come and help him. Hercules came up, looked at the man, and said. "Put your shoulder to the wheel, my man, and whip up your oxen." Then he went away and left the driver.

'What lesson does that teach us?'
If the child simply repeats the story as a great many do, say only again,

'What do *we* learn form this?'

If the child's answer is not clear, say,

'What do you mean? Or 'Explain; I don't quite understand what you mean.

Record the answer of the child verbatim and proceed to the next fable.

'Here is another fable. Listen again and tell what lesson this fable teaches us.'
(b) 'The Milkmaid and her Plans.

'A milkmaid was carring her pail of milk on her head, and was thinking to herself: The money for this will buy four hens; the hens will lay least 100 eggs; the eggs will produce at least 75 chicks; and with the money which the chicks will bring I can buy a new dress to wear instead of the ragged one I have on. At this moment she looked down at herself, trying to think how she would look in her new dress, but as she did so, the pail of milk slipped from her head and dashed upon the ground. Thus all her imaginary schemes perished in a moment.

Similarly with the rest.
(c) 'The Fox and the Crow.

'A crow, having stolen a bit of meat, perched in a tree and held it in her beak. A fox, seeing her, wished to secure the meat, and spoke to the crow: "How handsome you are and I have heard that the beauty of your voice is equal to that of your form and features. Will you not sing for me, so that I may judge whether this is true?" The crow was so pleased that she opened her mouth to sing and dropped the meat, which the fox immediately ate.'

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(d) 'The Farmer and the Stork.

'A farmer set some traps to catch cranes which had been eating his seed. With them he caught a stork. The stork, which had not really been stealing, begged the farmer to spare his life, saying that he was a bird of excellent character, that he was not a at all like the cranes and that the farmer should have pity on him. But the farmer said, "I have caught you with these robbers the cranes, and you have got to die with them."

(e) 'The Miller, his Son, and the Donkey.

'A miller and his son were driving their donkey to a neighbouring town to sell him. They had not gone far when child saw them and cried out, "What fools those fellows are to be trudging along on foot when one of them might be riding!" The old man, hearing this, made his son get on the donkey, while he himself walked. Soon they came upon some men. "Look," said one to walk." On hearing this the miller made his son get off, and he climbed upon he donkey himself. Further on they met a company of women, who shouted out, "Why, you lazy old fellow, to ride along so comfortably, while your poor boy there can hardly keep pace by the side of you!" And so the good-natured miller took his boy up behind him and both of them rode. As they came to the town a citizen said to them, "Why, you cruel fellows! You two are better able to carry the poor little donkey than he is to carry you." "Very well," said the miller, "we will try." So both of them jumped to the ground, got some ropes, tied the donkey's legs to a pole, and tried to carry him. But as they crossed the bridge the donkey become frightened, kicked loose and fell into the stream.'

For a correct response, which gives the correct moral of the fable in general terms, give 2 marks. For responses, which give plausible but not exact answers give half credit. As Terman says, these latter responses are of two kinds: '(1) Interpretations, which are stated in general terms and are fairly plausible, but are not exactly correct, and (2) those which are perfectly correct as to substance, but are not generalized.'*

An example of the first kind is, 'If we pray to God in the time of difficulty, he suggests a remedy to us.'

An example of the second kind is, 'He ought not to sit silent calling out loudly for help. He ought to try himself.'

Remarks. This test was first standardized by Terman in 1911. It is one of the best tests of intelligence as it requires on the part of the child a thorough comprehension of the story and *generalization* of the moral contained in it. The correlation of the test with mental age as determined by the scale as a whole is 0.94. Perhaps a little schooling might be a help in showing the child what a moral is and how to draw it. Beyond that, the children are thrown entirely on their own resources. Again and again it was observed that though the children knew the story and perhaps had also read the moral, it did not help them at all. They had to put forth their best efforts anew to draw the moral and several times failed to do so.

The fable has often been used to test the delinquency of children. It is argued that a child who cannot draw the moral from a concrete situation as in the fable, would not be able to draw it from a social situation and hence would not be able to guide his conduct. Thus a test that sifts out dull people also sifts out delinquents. This proposition however is challenged by a good many investigators, who say that dullness and delinquency are by no means concomitant. However, it seems possible that in a good many cases delinquency is due to the person's not being able to comprehend the gravity of the situation nor to imagine the results of his actions, which lack of comprehension is certainly due to his mental retardation. To this extent however any test of intelligence would also be a test of delinquency. But there are also cases where delinquency is due to the environment in which the person grows up and the delinquent is helped by his intelligence to be an expert delinquent rather than to cure himself of his delinquency by the width of vision which he gets on account of his intelligence.

XVI. 2. Reversing Hands of Clock. (2 out of 3. Error must not exceed 3 minutes. Time limit 1 minute.)

TEXT AND PROCEDURE

Before giving the test see that there is no watch or clock within the child's sight.   Say.

'Suppose it is six twenty-two o'clock, that is, twenty-two minutes after six; can you see in your mind where the large hand would be and where the small hand would be?'

'Now, suppose that the two hands were to change places, so that the large hand takes the place of the small hand, and the small hand takes the place of the large hand. What time would it then be?'

Similarly with 11-10 and 2-46.

The range of answers for the first problem is 4-30 to 4-35, for the second 1-53 to 1-58 and for the third 9-10 to 9-15.

Generally a child of this age knows how to read clocks and watches. If there be doubt, test actually by making him read your watch accurately. If he happens not to know, drop the test and substitute one of the alternative tests.

Remarks. The answer is generally given by children in half a minute. Terman allowed two minutes. We have allowed one minute and this is enough. The position 8-10 is very clumsy. If it were made 8-13, the answer would be 2-41 and not 1-42 as with 8-10. The difficulty and nature of the test would, therefore, be changed a little, and so we have changed it to 11-10, the answer to which is 1-56 and the nature of the test is retained as it was, at the same time removing the clumsiness of 8-10.

The test is given by Binet in his 1905 series though omitted in those of 1908 and 1911. As the series was not an age scale, the age where this test fits is not indicated. Terman located it is year XIV. Goddard and Kuhlmann use only two of these sub-tests, the (a) and the (c) above, omitting (b) probably on account of its clumsiness, as we have shown. They want both problems to be correct and located it in year XV. Our statistics show that the test is a little too difficult for year XIV, and so we have placed it in year XVI.

This test, is a very valuable problem in constructive imagination of the visual type. It requires the child first of all to create a mental picture of the given position of time and then with the help of it to construct another picture with the hands changed. Both pictures do not appear to remain in attentive consciousness at one and the same time. After the first is formed and the second is being constructed, the first is mo mentarily wiped off, but again reconstructed several times for comparison, attention oscillating from one to the other as many times as it is necessary to solve the problem. This is no mean feat of mental gymnastics. The test correlates highly with mental age as determined by the whole scale, the correlation being 0.82. The percentage of passes rises gradually from year to year but is not very high even in the highest age. A little less than 40 per cent of the children between 12 and 14 years of age pass the test, about 51 per cent of those between 14 and 16 and 59 per cent of those above 16 years of age.

XVI, 3. Giving Differences between Patil and Kulkarni. (2 out of 4 in any form ---- 1 Writing work, 2 Settlement of disputes or supervision of village, 3 Power, and 4 Appointment and lemurs.)

(In large cities and elsewhere if children are found to be unfamiliar with Patil and Kulkarni this test may be omitted and one of the alternative ones substituted.)

TEXT AND PROCEDURE

'You know a Village Patil and you know a Village Kulkarni. Now give me any real main difference between them that you know of.'

If the child gives only one or two differences or some trivial differences and stops, say, 'Any differences will do. Give me any differences that you know of.'

For success two of the following four in any form and even though mixed together are sufficient :

Village Patil	Village Kulkarni
1. Has no writing or account work.	1. Has writing and account work.
2. Has settlement of disputes or supervision of village.	2. Has no such work.
3. Is a superior officer (power).	3. Is subordinate to the Patil.
4. Does not require much literacy and the post is generally hereditary.	4. Has, as a rule, to pass a literacy test, and the and the post is not generally hereditary.

There may be small differences in these items on account of local circumstances and these should be taken into account in scoring.

Remarks. The Binet test of 'giving three differences between a President and a King' is unsuitable in India. Indian children had no knowledge of a President and only indirectly of a King. We had, therefore, to substitute for it a similar test but suitable for Indian conditions. Two such were tried, (1) 'The differences between a Collector and the President of a Municipality', and (2) 'The differences between a Village Patil and a Village Kulkarni'. Of these, the latter seemed to be better as most children come into contact with the Village Patil and the Village Kulkarni and a much smaller number with the Collector and the President of the Municipality. The first would give a slight advantage to town children, while the second would give the advantage to village children. As most of the tests in the scale give a slight advantage to town children, it was thought a slight advantage to village children in this test was desirable. The test does not depend much on schooling. There is a lesson on the Patil and the Kulkarni in one of the primary reading books, but that lesson is read by children at an age when they are not expected to know the full implications of the statements made in it. The children were, therefore, found to be thrown entirely on their own resources and began to *find* the differences from what they knew of the Patil and the Kulkarni. The test is found to be a fairly good test of intelligence, the correlation between it and mental age as determined by the entire scale being 0.58. There are very few children of this age in large cities who do not know about a Patil and a Kulkarni. If one is found the test may be dropped and one of the alternative tests substituted in its place.

Psychologically the test is similar to other tests for finding differences and similarities, because finding similarities presupposes knowledge of dissimilarities. Compare, for example, VII, 6; IX, 3: XIV, 5; XIX, 3.

Since the test was standardized some years ago conditions in India have changed immensely. India has become a democratic country and the post of President of the country has been instituted. It would be interesting to standardize the original test of Binet 'giving three differences between a President and a Kind' now. The posts of Village Patil and Village Kulkarni have gone out of vogue in the changed political situation and the test would not be suitable in the changed circumstances.

XVI, 4. Repeating Six Digits Reversed. (1 out of 3. Read 1 per second.)

TEXT AND PROCEDURE

Use the series :
4-7-1-9-5-2; 5-8-3-2-9-4; 7-5-2-6-3-8.
Procedure same as in similar previous tests. See VII, 3; IX, 1; XII, 4.
Remarks. In 'digit' tests a lower series should always be tried before a higher series is given.
XVI, 5. Problem. Questions. (2 out of 3. Query on (a) and (b). Read a second time after 5 seconds. Time limit 1 minute to begin reply.)

TEXT AND PROCEDURE

Say,
'Listen carefully, and see if you can understand what I read.'
The read the following passages twice over as indicated above one after the other slowly and emphasizing the key-wards so as to make the meaning clear.
(a) 'A man who was walking in the woods of begin outside this town stopped suddenly, very much frightened, and then ran to the nearest policeman, saying that he had just seen hanging from the limb of a tree a..... a what?'
(b) 'My neighbour has been having strange visitors. First a doctor came to his house, then a lawyer, then a clergyman (or priest). What do you think happened there?'
(c) 'A villager who had come to town for the first time in his life saw a man riding along a street. As the man rode by, the villager said : "This man is lazy; he walks sitting down". What was that man riding on that caused the villager to say, "He walks sitting down"?'

Examples of satisfactory and unsatisfactory answers:

(a) Satisfactory. A man who hanged himself; suicide.

Unsatisfactory. A snake; a ghost; a nest of birds; a thief was running away after committing a theft, hanged himself on the branch of a tree; a monkey; adventitious roots of a banyan tree; a thief; a bat; the tail of a monkey; a cat; a bag; a honeycomb; a tiger; a bundle of cloths hung in the dark; some wonderful thing; a fallen trunk of a tree; a thief about to jump down; a bird; a fruit; mangoes.

(b) Satisfactory. Illness resulting in death – doctor to give medicine, lawyer to settle money-matters, priest to perform religious rites. Somebody is dead- doctor to see if he is dead, lawyer to settle disputes about division of property, and priest to perform funeral rites. Somebody is ill and the doctor comes; then he is about to die and the lawyer comes to make a will; finally he dies and the priest comes to perform the funeral rites. Murder- doctor for post-mortem, lawyer to note down facts of the case, and priest for funeral rites. Some accident – doctor to examine the dead man, lawyer in order to conduct the case, and the priest for funeral rites. Somebody is poisoned – doctor for medical examination, lawyer to note down the law-points and the priest for the funeral rites. Somebody recovers after serious illness – doctor to give medicine, lawyer to take the patient's signature and priest for feast after recovery. Somebody is ill and then dies – doctor for treatment, lawyer for management of property, and priest for purification of the household (praya-schitta) and for receiving charity.

Unsatisfactory. Doctor for illness, pleader for some business, priest for some business, priest for some ceremony. Doctor for illness, lawyer to inquire about the cause of quarrel, priest for marriage ceremony. Doctor for illness- they might have come for a feast. Murder – no explanation. Doctor for illness, lawyer for quarrel, and priest for marriage.

(c) Satisfactory/ Bicycle.

Unsatisfactory. A horse; a cart; a motor-car; a palanquin; a tonga; on foot; carrying another person; on the ground; a bullock; a small animal; a lame man was seated on the ground and propelling himself along; a donkey; a calf.

Remarks. The first two problems are Binet's the third is added by Terman. In the first problem Binet uses the name of a forest near the town where the subject is being examined. Terman omits this. Binet's form is better as it helps the child to visualize the events and makes the problem more concrete and definite. Binet requires the answers to both the problems correct; while Terman requires two out of three to be correct. Thus Binet's form of test is harder then Terman's. Binet located this test in year XV of his 1911 scale; Burt with the identical form of test in year XIII, and Terman with the amended procedure in year XIV. Our statistics requiring two out of three problems correct would place the test in year XVI. The test is a fairly good test though many children hazard an answer by mere guessing. The correlation of the test with mental age as determined by the entire scale is 0.8.

The test requires the child to visualize elements and discover a situation where all these elements will fit in. It is thus psychologically a form of the completion test of the abstract type. It is interesting how many children's answers reveal the strong power of perceptual associations, which children are powerless to inhibit, and are unable to find out a proper solution by reasoning. Thus in the first problem a great many answers give 'a bat'. The children have seen these bats hanging from the branches of trees and as soon as they try to visualize anything hanging from the branch of a tree, the previous association formed brings up the image of a bat. Similarly in the third problem when we translated 'a white man' by 'a European' in the Indian language the answer invariably was 'a motor-car' because Indian children have usually seen Europeans 'riding' in a motor-car, and when the words 'European' and 'riding' are given, the association brings in 'a motor-car'. After a little trial we were obliged on this account to change the phrase 'a European' into simple 'a man'. These instances exemplify the great power of perceptual images to occupy the mind and inhibit thinking, which is necessary in finding out a situation in which the given elements will fit. The fixity of the imagery is thus a sign of low intelligence. Higher intelligence can construct and destroy imagery very rapidly. In a good many cases a plausible answer is first given and then some sort of explanation is manufactured, particularly in (b).

Binet and Terman did not time the problem, nor did they lay down how many times the problems should be re-read. The greater the number of times the passages are read, the greater the chances of backward subjects finding an answer. Similarly we cannot by indefinitely waiting for a reply, and so we have for the sake of uniformity thought fit to time the test and lay down the procedure accurately.

If the test is scored on the basis of two out of two (both Binet's i.e. the first two) after Binet it is harder still and would be suitable for the Superior Adult group according to our statistics.

XVI, 6. Repeating Seven Digits. (1 out of 2. Read 1 per second.)

TEXT AND PROCEDURE

The series is:

   2-1-8-3-4-7-9; 9-7-2-8-4-6-5.

Procedure same as in previous 'digit' tests.

Remarks. If the test is scored on the basis of 1 out of 3, it is slightly easier and is suitable for year XIV. Terman has the same digit, namely 3, twice in the first series and 7 twice in the second series. This sometimes disconcerts the child and diverts his attention. He sometimes interrupts and says the digits occurs a second time, and so the test is spoiled. We have changed this.

CHAPTER TWENTY ONE

TESTS FOR YEAR XIX (SUPERIOR ADULT)

XIX, 1. Using a Code. (Vernacular codes to be used. 2 errors. 6 minutes. Inverting numbers or writing one of the numbers or writing one of the numbers of a letter counts half error. But if all the numbers are inverted and the message is otherwise correct no errors are to be counted.)

TEXT AND PROCEDURE

Place before the subject the card on which the code is printed and say,

'Say this secret code. You will see from this that you can write any syllables in the same way. Now, examine the method of writing syllables carefully. To illustrate, first the words "Go to school" (in Kannada) are written here in ordinary script and the same again in the secret code. The first syllable (in the Kannada script) is the seventh of the class of consonants beginning with ......Therefore, we write the first consonant ..... and the number 7 beneath it. Thus .... Means ..... Further, the first syllable ..... is the second in order in the series of syllables ..... Therefore, we write the number 2 above. Thus ..... means the first syllable .... Similarly, the last syllable, etc., etc.

'Now, I will give you half a minute. In that time you must study this carefully without speaking a word. Then I will take away the card and ask you to write something for me in this secret code. Now look at this.'

After the half-minute say,

'Now you must write something for me. Remember how you are to write it. When you have to write a syllable look to the class of consonants to which it belongs. Then write down the first of these and *below* that put the serial (belonging to the series) number of the required consonant in that class; then write the number of the required syllable in the series of syllables *above* the letter.'

Then remove the card from the sight of the subject and say,

'Now write the words .... In this code.'

Remarks. The English code test was devised by Healy and Fernald and appears in their *Tests for Practical Mental Classification,* published in 'Psychological Review Monographs', 1911. It was first standardized and located in year XV by Dr Godard and then by Terman in his Stanford revision and located in year XVI (Average Adult). As the Indian scripts are quite different a new code test had to be devised for this script.

The results of this test, therefore, cannot be compared with those of the English code, since there is very little in common between them except the name. This code appears to be simple at first sight but when actually put to the test it is found to be too difficult for the Adult group but is suitable for the Superior Adult group. Psychologically it requires the subject to put into use the highest conceptual processes of analysis and synthesis. The power of comprehending verbal statements is also a great factor. The directions are rather long, but the instinct of curiosity keeps up the interest of the subject.

In the directions we have stated that if he subject inverts all the digits no error is to be counted. The reason is that it is natural for us not to remember without much drilling which of two alternatives is correct, just as children find it very hard to remember 'right' and 'left' without drilling. Hence if the subject follows one of the alternatives to the logical end, no error is to be counted.

The consonants in the Indian languages are classified as 'gutterals', 'dentals', 'labials', etc. These are called the *Vargas* (classes). There are certain others which are grouped together in a heterogeneous mass and are called the *avargiyas*, the un-classed group. But for simplicity in giving directions we have called this group the *ya-varga*, which is really an inaccuracy, but excusable for the sake of convenience.

The test shows a high correlation with mental age as determined by the scale as a whole, namely 0.89. More than 36 percent of children between 14 and 16 years of age pass it and nearly 40 per cent of adults, i.e., subjects above 16 years of age.

XIX, 2.   Ingenuity Test. (2 out of 3. 5 minutes each. Directions may be repeated. If the subject fails on the, experimenter explains it.)

TEXT AND PROCEDURE

Say to the subject,

(a)   'A mother sent her boy to the river to get seven pints of water. She gave him a 3-pint vessel and a 5-pint vessel. Show me how the boy can measure out exactly 7 pints without guessing at the amount. Begin by filling the 5-pint vessel.'

The answer must be found orally. The subject must explain the complete solution. Tell him no marking of the vessel with chalk or by any other method is allowed. If the subject fails to give the solution within 5 minutes explain this problem and proceed to the next.

(b)   Same as above, except that 5 and 7 are given to get 8.
'Begin by filling the 5-pint vessel.'
(c)   Same as (a), except that 4 and 9 are given to get 7.
'Begin by filling the 4-pint vessel.'

Remarks. The test was devised and standardized by Terman. It is rather a hard test though at first sight it does not look so. Terman says: 'Only an insignificant number pass the test below the mental age of 14 years, and about two-thirds of Average Adults fail. Of our Superior Adults somewhat more than 75 per cent succeed.' Our Superior show that it is passed by 14 per cent of children between 12 and 14 years of age, 32.5 percent of children between 14 and 16 years and 36 per cent of those above 16 years of age. The correlation of the test with mental age is 0.65.

Psychologically the test requires a very high power of visual imagery. The vessels must be imagined and the operations of pouring the water, adding, subtracting, etc. must be done with these imaginary vessels. There is also an element of the trial and error process. The subject tries various processes and finds out which process leads to the required result.

The weakness of the test is that it is most likely to be communicated to other children. The problems can be easily remembered and being of a novel nature are something of the type of 'catch' questions that children take pleasure in asking others. When this is found to be the caws the examiner should not use the test.

XIX. 3. Differences between en Abstract Terms. (3 out of 4. Wait 1 minute for reply.)

TEXT AND PROCEDURE

'What is the difference between
(a) Laziness and idleness?
(b) Pride and vanity?
(c) Poverty and misery?
(d) Dishonor and disrepute?'
If the subject simply gives the definition of the two words separately without pointing out the essential difference between the two terms, say,

'Yes, but I want you to tell me the difference between _____ and _____ Tell me only the difference.'

Remarks. The selection of the proper pairs of words is very important here. There must be similarity of meaning and yet an essential difference between the two terms. Binet's pairs in his 1908 scale were:
(i)   Pleasure and happiness.
(ii)   Evolution and revolution.
(iii)   Event and advent.
(iv)   Poverty and misery.
(v)   Pride and pretension.
He cuts these down to three pairs in his 1911 scale:
(i)   Idleness and laziness.
(ii)   Event and advent.
(iii)   Evolution and revolution.
Burt, who otherwise follows Binet very closely, uses the first, second and fourth of the Binet 1908 pairs.

In selecting the pairs of words mere translation is of no use, because in the different language the subtle differences in such pairs of words vary to a very large extent. Sometimes it is very difficult to find exactly parallel pairs. Further the difficulty of the pairs may vary much in different languages. Terman uses the following four pairs:
(i)   Laziness and idleness.
(ii)   Evolution and revolution.
(iii)   Poverty and misery.
(iv)   Character and reputation.
We have used four pairs in the Indian languages which are translated into English as nearly as possible as indicated above in the English version of our tests but not exactly. The fourth pair we tried at first was 'honour and reputation.' This raised some difficulties and we changed it later on into the contrary terms 'dishonour and disrepute.' In giving differences any really clear contrast should be accepted. Giving the meaning of the terms only without bringing out the contrast is of no use.

This test appears in year XIII of Binet's 1908 scale and in the Adult group of his 1911 scale, in the forms we have indicated above. Terman has it in year XVI (Average Adult group). Burt locates it in year XV. We have found it difficult enough for the Superior Adult group.

This test taken along with XII, 3 'defining abstract words', demonstrates clearly how our language's ability evolves from year to year. While 'defining abstract words' is found easy enough for year XII, 'finding differences between abstract terms' is difficult even for the Adult group. It is suitable only for the Superior Adult group. It is passed by 26 percent of children between 14 and 16 years of age and by 41 percent of the Adult group, i.e. those above 16 years of age. It correlates well with mental age, the correlation being 0.78.

XIX, 4.   *Binet's Paper-cutting Test. (If given must come before XIV, 1. The creases must be shown in pencil and the diamond shaped holes in the middle of the two halves of one of these creases. 2 minutes to complete drawing.)*

TEXT AND PROCEDURE

Take a piece of paper as stated in XIV, 1 and say,
'Watch carefully what I do. See, I fold the paper this way' (folding it once over in the middle) 'then I fold it this way' (folding it again in the middle, but at right angles to the first fold). 'Now, I will cut out a notch right here.' So saying cut out a triangular notch in the middle of the single edge where there are no separate leaves.

Then leave this folded paper with the notch exposed to view, but pressed flat against the table. Give the subject a pencil and another piece of paper similar to the one used and say,
'Take this piece of paper and make a drawing to show how the other sheet of paper would look if it were unfolded. Draw lines to show the creases in the paper and show what results from the cutting.'

If the paper is not square but a little longer one way, the holes may be either on the longer creases or the shorter. But their number and position in the middle of the two halves of the creases must be correct. The exact shape and size of the holes are not taken into account. The child must not fold the paper given to him before drawing.

Remarks.   As Terman remarks, this test requires the power of constructive visual imagination. The child has successively to construct visual images of the piece of paper, the first folding and the creases so formed, then the second fold, the creases so formed and the holes made by the cutting. This is a highly valuable test for higher ages, for which it is very difficult to get suitable tests. The correlation of the test with mental age is 0.63. Nearly 28 percent of children between 14 and 16 pass it and only 32 percent of those above 16.

Binet located this test in year XIII in his 1908 scale and in the Adult group in his 1911 series. Terman locates it in the Superior Adult group and Burt in year XV.

XIX, 5. *Repeating Thirty Syllables. (1 out of 2 absolutely correct.)*

TEXT AND PROCEDURE

The following are the renderings of the Marathi passages to be given for repetition in this year.
(a) Rama likes very much to go to his grandmother, because she tells him funny stories.
(b) Yesterday I saw a pretty little dog in the street. It had curly brown hair.

Procedure as in previous repetition of syllables tests. Note that in this year one of the two passages must be absolutely correct.
Remarks.   Binet's corresponding test is of 26 syllables and he located it in year XV in his 1911 scale. Burt located it with the same number of syllables in year XIV. Terman uses 28 syllables and places it in year XIV or Adult group. Binet and Burt allow only one trial, while Terman gives two trials. We have used 30 syllables with two trials and find it difficult enough for the Superior Adult group. The test is passed by 25.5 per cent of children between 14 and 16 years of age and by 30.5 percent of those above 16 years, that is, the Adult group.
The correlation of the test with mental age is 0.68. But when all the tests of repeating syllables are correlated together with mental age the correlation is 0.89.

XIX, 6. *Reversing Triangle in Imagination. Karnatak form. (Time to complete diagram 2minutes.)*

TEXT AND PROCEDURE
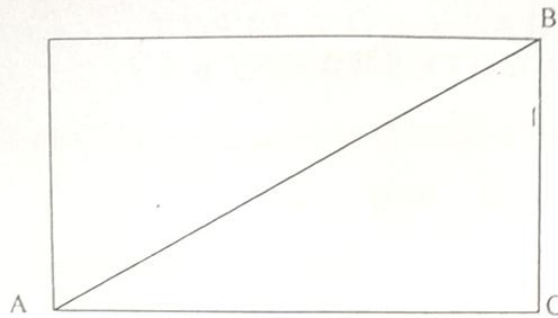
Place a stiff white card 15 cm. by 10 cm., divided along the diagonal along the diagonal AB as in the 'divided card' test (VI, 3), before the child, with the cut edges joined together as shown in the diagram above, the side AC being towards the child (the letters A B C are not to be shown). Then say,

'Look carefully at the lower piece of this card (pointing to it). Suppose I now turn it over (showing the turning movement with the hand without removing the piece) and place this corner of the lower piece (pointing to B of the lower piece) touching this corner of the upper piece (pointing to A of the upper piece); and this corner of the lower piece (pointing to A of the lower piece) touching this corner of the upper piece (pointing to B of the upper piece). What would it all look like? Now I am going to take the piece away (remove at this point the lower triangle only from view). Imagine it placed as I told you; and draw its shape in the proper position. Begin by drawing the shape of the top triangle.'

The finished diagram as drawn by the subject should be as shown below.

The essential points to be remembered in scoring the diagram are: (1) the figure should be roughly symmetrical about the diagonal; (2) the ends A, B, and B, A should be congruent; (3) the angle C should be roughly a right angle. Note that (2) and (3) are included in a way in (1).
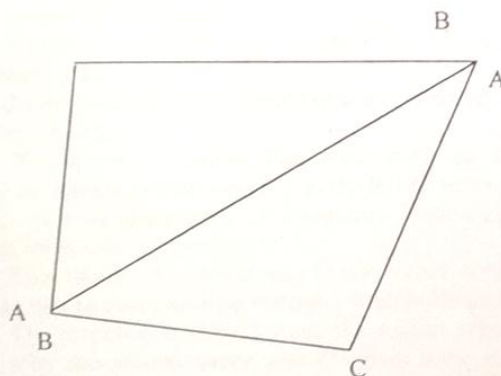
Remarks. This test was suggested while giving Binet's test of reversing triangle in imagination', which was found to be too hard even for the Adult group. Even this test was found to be too difficult for the Adult group. Statistics showed that the present test was suitable for the Superior Adult group and Binet's original test was hard enough for the Very Superior Adult group. The present test is passed by 28 percent of adults and Binet's test by 4 percent of them. The correlation of the test with mental age is 0.55.

XIX, Alternative. Vocabulary, fifty-five words.

TEXT AND PROCEDURE

Same as in previous vocabulary tests.

Remarks. With increase in mental age not only does the quantity of the vocabulary, that is the number of words known, increase, but also its quantity. The definitions of words given by this class are generally accurate, even abstract words being defined accurately.

CHAPTER TWENTY TWO

TESTS FOR YEAR XXII
(VERY N SUPERIOR ADULT)

XXII, 1. Comprehension of Physical Relations. (2 out of 3. May read a second time if necessary.)

TEXT AND PROCEDURE

(a) Problem regarding the path of a cannon ball.

Draw on a piece of white paper a long horizontal line from end to end, towards the bottom of the paper. Above it at a distance of about six centimeters and at the left end of the paper from the subject's side draw a short line about three centimeters long parallel to the first line.

Say to the subject,

'Suppose this long line is a level piece of ground and this short line is a gun which is placed horizontally parallel to the ground and is fired across this perfectly level piece of ground.

'Now, suppose that this cannon is fired off and that the ball comes to the ground at this point here. (Making a small mark at the farther end of the line which represents the level ground.) Take this pencil and draw a line which will show what path the cannon ball will take from the time it leaves the mouth of the cannon till if strikes the ground.'

As Terman says the answers may be classified as follows:

(1) A straight line is drawn joining the mouth of the cannon and the point where the ball strikes the ground.
(2) A straight line is drawn from the mouth of the cannon to a point almost directly above the point where the ball strikes and then this line drops suddenly to the goal.
(3) The line rises gradually from the mouth of the cannon and then descends down to the goal, thus making something like a parabolic curve.
(4) The line goes horizontally from the mouth of the cannon for some distance and then descends gradually to the goal.

Of these the fourth type of answer is the only one that is satisfactory. It need not, however, be mathematically accurate.

(b) Problem about the weight of a fish in water.

Say to the subject,

'You know, of course, that water holds up a fish that is placed in it. Well, here is a problem. Suppose we have a bucket which is party full of water. We place the bucket on the scales and find that with the water in it weighs exactly 20 kilograms. Then we put a 2 kilogram fish into the bucket of water. Now, what will the whole thing weight?'

Even though the answer may be correct ask further,

'How can this be correct, since the water itself holds up the fish?'

The response is correct when the subject says (1) The weight is 22 kilograms; (2) persists in this answer after the second query, and (3) gives some sort of plausible explanation like the following : The weight is there any way; the weight of water and the weight of fish both press down the scale-pan.

(c) Difficulty of hitting a distant mark. Say,

'You know, do you not, what it means when they say a gun "carries 100 meters"? It means that the bullet goes that far before it drops an appreciable amount.

'Now, suppose a man is shooting at a mark about the size of a petroleum tin. His rifle carries perfectly more than 100 metres. With such a gun is it any harder to hit the mark at 100 metres than it is at 50 metres?'

If the subject answers in the affirmative ask him to explain. The correct explanation is that a small deviation from the correct direction at the start becomes larges and larger as the distance is increased. The mathematical relation of this increase of deviation to distance is not required. It is enough if the subject gives only the general principle. The subject will have to be questioned a little until he understands what exactly is required.

Remarks. One feels rather uneasy in giving this test. It is found too hard for the Average Adult group and even a little too hard for the Superior Adult group. We have, however, retained it in the Very Superior Adult group as it is so difficult to get good tests for the highest intelligence. It is passed only by about 7 per cent of subjects above 14 years of age and by 10 percent of the adult level. Our statistics in this respects are very disappointing as compared with Terman's. Terman says :

'At the 14 year level less than 50 per cent pass; of Average Adults from 60 to 75 percent are successful. Few Superior Adults fail.' The correlation of the test with mental age is 0.75.

The test seems to depend a good deal on acquired information. Two of the three problems are concerned with shooting. Very few Indian children are conversant with any kind of shooting apparatus, even toy apparatus, with the result that they have no idea of the mechanism involved or of the path of the projectile. Of course they do a good deal of stone throwing but their experiences with regard to the path of the stone are very vague, and the test is consequently found to be very difficult for them. Psychologically, no doubt, it does require a good power of imagery but for the proper form of imagery of be roused the children must have had previous experience of the situations.

XXII, 2. Repeating Eight Digits. (1 out of 3. Read one per second.)

TEXT AND PROCEDURE

Give the digits with a uniform speed and without any rhythm or sing-song manner.
The series is : 7-2-5-3-4-8-9-6; 4-9-8-5-3-7-6-2; 8-3-7-9-5-4-2-6.
Remarks.   The test is passed by 13.3 percent of subjects between 14 and 16 years of age and by 7.2 percent of those above 16 years, which shows that memory for digits falls off after the sixteenth year. The lower percentage of passes in the adult level of this as well as of the three following tests seems to support the view that immediate memory falls off after the sixteenth year. (See footnote to p. 97.)

XXII, 3. Repeating Thought of Passage Heard. (Read the passage only once in about ½ minute.)

TEXT AND PROCEDURE

Say to the subject,
'I am going to read once only a little selection of about 6 or 8 lines. When I am through I will ask you to repeat as much of it as you can. It does not make any difference whether you remember the exact words or not, but you must listen carefully so that you can tell me everything it says.'
The subject's report should be taken down verbatim.
After securing attention the following passage should be read slowly – in about half a minute – and with expression, laying stress on the key – words:
'Many opinions have been given on the value of life. Some call it good, others call it bad. It would be more nearly correct to say that it is mediocre, for on the one hand our happiness is never as great as we should like, and one the other hand our misfortunes are never as great as our enemies would wish for us. It is this mediocrity of life which prevents it from being radically unjust.'
The subjects generally try their best to give the substance of the passage but if they stop in the middle encourage them to say as much as they can remember, in whatever words they like.
The arguments in the passage should be carefully reproduced and should contain the following three ideas : (1) life is neither good not bad (but medium); for (2) it (or our happiness) is not so good (or s. great) as we wish it, nor (3) so bad as our enemies (or others) wish.*
Remarks. This is one of the most valuable tests in the series. It requires the subjects to comprehend the logical argument of a difficult passage, as it is being read, and to reproduce it. The selection is Hervieu's reflection on life and is an excellent one. This test differs from those of repeating syllables in that, in this test, the sense of the passage is more important than the words in which it is clothed; while in the other the actual syllables are all important. Of course even in the latter the sense or meaning is a great help in retaining the syllables, since the child would be able to repeat far fewer nonsense syllables than syllables having sense. It differs from the test of reading and report in that in the latter the child him-self reads and his ability to comprehend a passage that is received through visual impression is tests, while in the former his ability to comprehend a passage received through auditory impression is tested. But from this we cannot say that comprehension of a passage received though auditory impression is more difficult than comprehension of a passage received through visual impression. For such a comparison the passages must be of the passages must be of the same difficulty, but it is far from so in the case of the present passage and the passage in IX, 5. The passage in IX, 5 is descriptive and concrete, while the present passage is reflective and abstract.
Binet assigns the test to the Adult group; Burt assigns it to year XVI. Terman gives one more passage and requires one of the responses to be correct. His second passage contains a good many scientific terms and cannot be easily translated into the Indian languages. We have retained only one passage, namely the original one used by Binet, as this was found to answer the purpose very well. Terman assigns it to the Superior Adult group, while we think it hard enough for the Very Superior Adult group.
Abstract thinking and the ability to form rapid imagery are no doubt signs of great intelligence. Lower intelligence requires concrete objects and concrete illustrations as an to thinking. This is a great lesson in education. In the earlier stages the teacher provides the child with models and diagrams, from which the child learns new things; but as the imaginative power of the child is developed, the use of such

concrete objects is lessened. In later stages such model are used only when explaining the most intricate machinery.

The test is passed by 15.8 per cent of subjects between 14 and 16 years of age and by 13.3 per cent of those above 16. The correlation of the test with mental age is 0.82.

XXII, 4.   Reversing Triangle is imagination. Binet's form (Time limit 2 minutes to complete the diagram.)

TEXT AND PROCEDURE

Procedure similar to XIX, 6.

After placing the divided card before the subject exactly as stated in XIX, 6, say,

'Look carefully at the lower piece of this card. Suppose I turn it over and lay this edge [pointing to line A C (see diagram on p. 267) without moving the card] along this edge (pointing to A B of the upper triangle): and suppose that this corner (pointing to C) is placed just at this point (pointing to B); what would it all look like? Now I am going to take the piece away. (Remove the lower triangle from view.) Imagine it placed as I told you, and draw its shape in the proper position. Begin by drawing the shape of the top triangle.'

The finished diagram as drawn by the subject should be as follows (Without the letter):
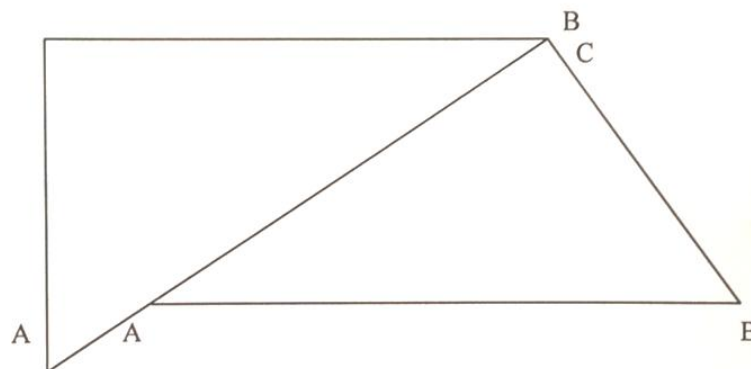
The essential points to be remembered in scoring the diagram are: - (1) A' C' B' must be roughly a right angle. (2) A' C' must be shorter than A B; and (3) B' C' must be the shortest of the three lines. *

Remarks. This test is one of the hardest tests in the whole series. It does require a little geometrical knowledge, the differentiation of a right angle from an acute angle, for example. The test is found surprisingly enough to be too difficult even for adults. The subject is required to form an image of the figure of the triangle, lift it in imagination, and apply it is directed. This is certainly helped by a proper knowledge of the size of the angles. It would be of interest to see what percentage of unschooled adults would pass the test as compared with adults who have had a course of schooling. Our present statistics show that the test is passed by 9.2 percent of children between 14 and 16 years of age and by 3.3 percent of adults, i.e. those above 16 years of ago. The correlation of the test with mental age is 0.83. The test is located in the Adult group by Binet (1911) and in year XV by Burt. It is dropped by Terman as an unsuitable test.

Reference for IQ range

Stanford-Binet Scale of Human Intelligence		
IQ Score	**Original Term**	**Modern Term**
145 and over	Genius	
120–144	High Above Average	
110–119	Above Average	
90–109	Average or Normal	
80–89		Dull Normal
70–79	Borderline Deficiency	Mild disability
50–69		Moderate disability
20–49		Severe disability
Below 20		Profound disability

(http://www.balkaninside.com15/07/2016:2.59pm/)