Contents of Volume II

People and Places

Preface to Volume II

It's a poor memory that only works backwards.

- Alice in Wonderland (White Queen).

Significance of the past emerges if it gives meaning and context to uncertain world. Similarly the past can be appreciated in the context of geography and resources that influence cultures, traditions, patterns of migration, and trade routes. Their historical background helps us evaluate viability of the forces that lead to certain actions, their trajectories, and shaped their consequences. By the same token, information, including literary devices, trivia and anecdotes, helps us reconstruct the focus of the deeper concerns. By looking at the conceptual continuity and development of thought behind such focus we judge relevance in the lives of the bearers of these thoughts. All together, all manners of methods, materials and devices contribute in the evaluation of the past that continues to be influential.

Mahendra Kumar Jain

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II-1. Perception for Shared Knowledge

World is knowable and comprehensible only through human efforts. The totality of our sense experiences is such that by thinking and reasoning with concepts and functional relations we can coordinate sense experience to deal with worlds of our concerns.

Ever since its inception (ca. 3000 BCE) the reasoning g with parts (anugam process) placed importance on the premise that **the world is knowable through human efforts**. It is the assumption behind all shared knowledge that continues to influence the human condition mostly for the better. The tradition of reasoning with parts evolved on the Indian subcontinent. It was an independent development that later came to challenge the *a priori* based approaches based on ad hoc of dogma and dialectic to suit purpose of the chosen few or the blessed ones. Approaches to build shared knowledge from parts also continue to be at odds with virtually all theistic belief systems.

The hall mark of the Jain tradition of shared knowledge is that it is built and validated by active choice, participation, and contribution of the users. Its conceptual foundation is traced to a critical insight of Rishabhnath (c. - 3000) about reality (III-26). He observed that the total is a balance of inputs and outputs (Table II-1). Over the next 2500 years this conservation relation paved the way for the Nay reasoning. Omniscience violates this law of material balance, and such an imbalance is the basis for all manners of attenuated and augmented perceptions (#A9-22).

As a *kulagar* (head of the tribe) Rishabhnath is said to have organized six skill sets for earning livelihood: agriculture, service,

construction, trade of good, counting and book keeping, and writing in the Brahmi script. He introduced four forms of actions (*kar*) as punishment of increasing severity: warning and admonition, (*hakkar*), rebuke and reprimand (*dhikkar*), social boycott and isolation (*makkar*), and banish or exile (*nikkar*). According to an ancient legend Bharat the eldest son of Rishabhnath consolidated the various kingdoms into the first empire on the Indian subcontinent. It is the basis for the name ***Bhaarat*** for India.

Gifts that keep giving

After the two sons of Rishabhnath learnt martial arts, they fought each other about inheritance of the kingdom. At the suggestion of his sisters Bahubali decided to back off, and his younger brother Bharat inherited the kingdom.

After learning the 64 fine arts, both the daughters of Rishabhnath asked their father to teach them something of lasting value. Brahmi was given a set of 64 alphabet characters to write all possible sounds that can be uttered, and therefore suitable for writing all thoughts that human can express in any language. Younger daughter Sundari was disappointed when she was given a set of only ten characters 1, 2, 3, 4, 5, 6, 7, 8, 9, and zero. However she was happy when she was told that by arranging these numbers in different ways it is possible to take a measure of all that exists in this universe.

Clearly, such gifts keeps on giving we learn to use alphabets. It can be appreciated from that with suitably chosen limited set of characters can express and manipulate all possible thoughts. Not only they facilitate discourse but written alphabets are also critical for generational transfer of accumulated shared knowledge. Indeed, we may run out of ideas but not the potential of the alphabets and numbers to take stock of possible real and imaginary worlds.

An interesting use of the 64 characters is made by Kundendu in his work Shri Bhoovalay (ca. 1275 CE). In this work numbers 1 to 64 are assigned for each of the characters of alphabets. The Kannad text of this work is in the form of a 27x27 matrix. Thus the text can be read in different sequences to generate distinct texts.

Mahaveer (- 599 to -527c), the intellectual successors of Rishabhnath, emphasized that doubt (*syad*) results from an imbalance of inputs and outputs, and that doubt reflects lack of sufficient information (*agyan*) about the inputs and outputs. Such doubt hinders even the evaluation of the consequences of what one knows. Therefore doubt calls for additional information and scrutiny. It calls for actions that do not contradict (*vyabhicahar*) with the known reality. It also follows that in the absence of complete and valid knowledge it is necessary to avoid irreversible actions such as violence as the basis for the code of conduct. For objectivity in personal choices and decisions it is also prudent avoid excesses that distract from the goal. Chances of failure are further minimized with behaviors that are not against (*aviruddh*) what is known to be successful in the past and is relevant for the present. Mahaveer formalized the syllogistic origins of *syad*, and emphasized that doubt is reduced by considering viable alternatives (*anekant*). The process remains relevant for all situations because the real-time decisions are made with incomplete knowledge.

In short, continuity of the reality-based thought and reasoning by the 24 ***Arihant*** from Rishbhnath to Mahaveer set the foundation for a secular world-view of shared knowledge in the Ganga valley. It has two key elements: First, valid perception follows from reality-based reasoning. Second, human create knowledge for human and humane use.

II-2. People and Places

Reasoning with parts is based on the premise that perceptions rooted in reality-based facts and criteria provide knowledge that is unlikely to be contradictory and inconsistent, and therefore a viable basis for successful behaviors. For example *Jeevatthan* explores the worlds of living being to understand attributes of life without ad hoc assumptions and other clouds of cultural self-interest.

As-it-was

The Hindi word *itihas* (History) comes from *etihas* which in Sanskrit stands for "as it was." If the present (as-it-is) is a matter of perception, certainly the past is more so. The past of a country, people and their culture, is a multidimensional tapestry. A linear narrative does little justice to the exploration of multiple relations. For such reasons all histories are means for certain ends.

The perspective of a bard, the traditional keeper of history, was to please its patron. The British bureaucrats James Mill and Max Mueller who never visited India influenced the colonial policies through their anti-orientalist and orientalist streaks. Such perceptions of India were also shaped by the Vedic interpretations provided by the Brahmins who provided legitimacy to the ruling class, of course for a fee. Some aspects of the social and political history of *Early India* (2002) are addressed by Romila Thapar. Our concern here is about the course of development of a highly influential secular thought process that remains alien to the European and Vedic mind set.

Our concern here is about the thought process that builds on testable assumptions and reasoning to arrive at tentative conclusions that are continually validated by practice. This secular approach for the validation of perceptions is so deeply rooted in human mind that the arguments influence virtually everything we know about the Indian Mind. Yet the formative influences that shaped the process are not considered to be the realm of political, social or economic history.

Being fully aware of the limitations of reconstructing the development of the thought, I have ground my perceptions to understand the continuity of the reasoning that evolves with time.

Anugam based secular world view developed in the Ganga Valley (misspelled in English as *Ganges*) of North East India (Figure II-1). People and events happened long before the word history was invented and the historical records began to be reconstructed in a particular way from a variety of artifacts. Also human concerns for individual behaviors and social order evolved long before the practices were structured into language, and organized and institutionalized dharm and religions were invented.

After about 1000 BCE a need for organized clash of ideas emerged with the influx of Indo-Aryans to the Ganga Valley from the North West (Figure II-2). It appears they were driven from Turkmenistan by the climate changes around 3000 BCE that somewhat later also decimated the (Indus) valley cultures. Rig Ved Samhita 10-38-3; 8-70-7; 8-71-8 (ca. 1300 BCE) refer to a group of *arhat* monks and others who do not acknowledge the Supreme and would not perform sacrifices. Rishabh, Ajit and Aristnemi (the 1st, 2nd and 21st Arihant) of this tradition are mentioned by name in the Yajur Ved (ca. -1000c). Arishtnemi means *respected by the enemy*. Around 800 BCE followers of the *Arhat* tradition began to be organized by the jin-kalp monks or jinver (plural). In the later Hindu and Buddhist works they are called *Nigganth* or The book-less and the god-less. Following the lead of the last Arihant Mahaveer, the supporters of Arihant tradition, probably a numerical minority even at that time, called the Jain (corrupted from *jin-anugami*) shaped the non-violence based secular world-view. As resuscitated by Gandhi, it is now generally acknowledged to be the desirable alternative to virtually all other means of conflict resolution.

तीर्थंकर और अवतार

जैन परंपरा के चौबीस तीर्थकरों में ऋषभदेव ही ऐसे तीर्थकर हैं, जिसे वैदिक धर्म और साहित्य में भी मान्यता मिली हुई है। यों चौबीसवें तीर्थंकर महावीर जैन परंरपरा में सबसे ज्यादा मान्य और ख्यात हैं, लेकिन ऋषभदेव का नाम इस धर्म परंपरा के प्रवर्तक रूप में लिया जाता है। संसार के प्राचीनतम ग्रन्थ ऋवेद में ऋषभदेव का वर्णन इस प्रकार है-

त्रिधा बद्धोवृषभोरोरवीतिमहादेवोमत्यांआ विवेश॥

अर्थात - तीन स्थानों से बंधे हुए वृषभ ने बारंबार घोषणा की कि महादेव मनुष्यों में ही विद्यमान हैं। यह घोषणा आत्मा को ही परमात्मा बनाने की घोषणा है। भागवत पुराण भी उनका एक अवतार के रूप में परिचय देता है।

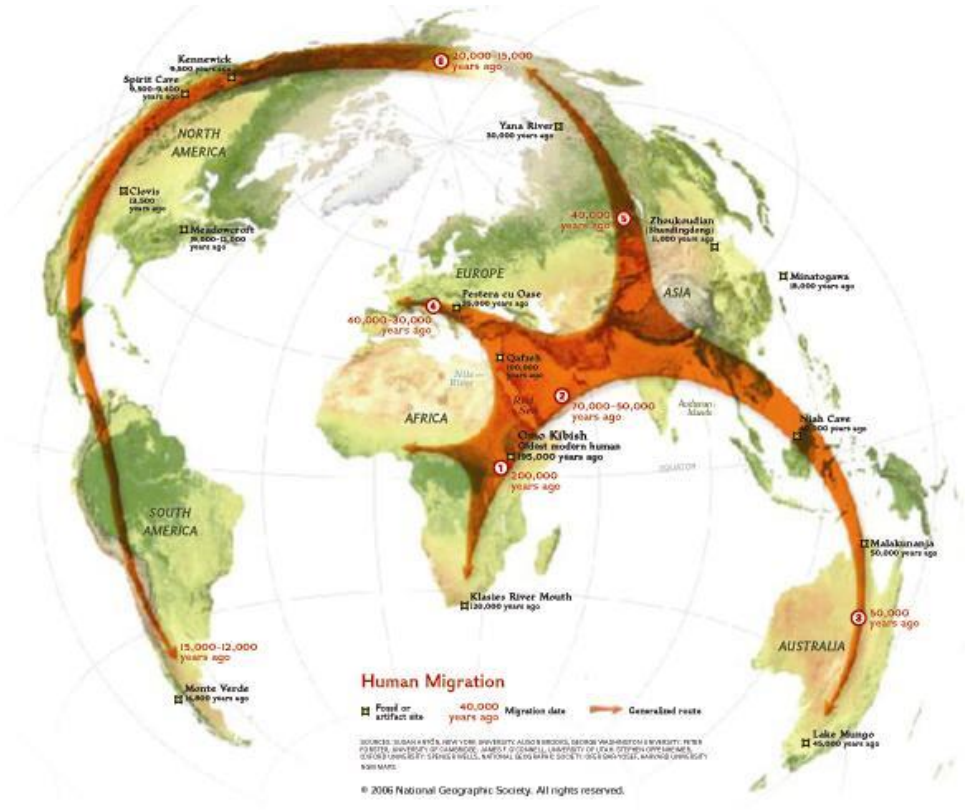
ऋषभदेव एक परंपरा के आरंभ थे जो महावीर तक चली और खिली

जैन और वैदिक दोनों परंपराओं में ऋषभदेव का उल्लेख आता है। ऋषभदेव के संबंध में कहते हैं कि उन्होंने शारीरिक और मानसिक क्षमताओं के साथ लोगों को श्रम करना सिखाया। इससे पूर्व लोग प्रकृति पर ही निर्भर थे। वृक्ष को ही अपने भोजन और अन्य सुविधाओं का साधन मानते थे और समूह में रहते थे।

ऋषभदेव ने लोगों को खेती करना सिखाया। उन्होंने लिखने के उपकरण के साथ संख्याओं का अविष्कार किया। नगरों का निर्माण किया। बर्तन बनाना, स्थापत्य कला, शिल्प, संगीत, नृत्य और आत्मरक्षा के लिए शरीर को मजबूत करने के गुर सिखाए। साथ ही सामाजिक सुरक्षा और दंड संहिता की प्रणाली की स्थापना की। उन्होंने दान और सेवा का महत्व समझाया। जब तक राजा थे उन्होंने गरीब जनता, संन्यासियों और बीमार लोगों का ध्यान रखा। उन्होंने चिकित्सा की खोज में भी लोगों की मदद की। ऋषभदेव को भगवान आदिनाथ के नाम से भी जाना जाता है। सनातन धर्म में ऋषभदेव को एक अवतार के रूप में माना गया है। भागवत में अर्हन् राजा के रूप में इनका विस्तृत वर्णन है। इसमें भरत आदि सौ पुत्रों का कथन जैन धर्म की तरह ही किया गया है। अंत में वे दिगम्बर (नग्न) साधु होकर सारे भारत में विहार करने लगे।

The Arihant world-view flourished independent of the outside influences. Only after 1200 BCE it came in contact with Vedic belief in the Vedic hymns that are believed to be the time-less works of non-human (*a-pourushey*). As a results of this encounter during 700 to 300 BCE the Vedang tradition of Supreme evolved into Vadantic (literally end-of ved) constructs of Brahm, Atma, Paramatma, and Chitannya through the Upnishadic discourses in the Ganga Valley. About 50 of these narratives are available that address criticisms of the Vedang.

Ved Vyas complied Mahabharat around 200 BCE. It is a story of confrontation of cultures set several around 1000 BCE in the region between the Sindhu Valley and the Ganga Valley. During the intervening period the Indo-Persian migrants began to stratify their social hold by creating a birth-based cast structure that broadened with time to provide divine blessing to kings. As it became clear that the world is far more complex, Shankar (ca 800 CE) argued that the world around us is an illusion and therefore there is little incentive to know it, let alone to understand its workings. This negativity still resonates widely in the worship phase of Hinduism heralded the Hindu trinity of Brahma (Brahmins), Vishnu (Vaishnav) and Shiv (Shaivites).



Out of Africa to India.

Pattern of distribution of particular mitochondrial and Y chromosome genes in human populations have provided remarkable insights into the course of early human migrations and development of cultures. Based on the available evidence migration to India occurred in several waves. One of the first if not the first groups to move "out of Africa" about 60,000 years ago reached Australia at least 50,000 years ago via the coast line of India to Bay of Bengal, Borneo, New Guinea and finally to Australia. They also settled along the way. The genetic markers show that all humans outside suN-Saharan Africa are descendents of the people who first settled in settled between the delta of Euphrates and Indus valley now populate all the continents.

The next stage of inland migration is apparently along the river banks of the settled delta and coastal regions. One of these

groups of foragers reached Western Europe around 30,000 years ago, and their descendents were apparently destroyed during the ice age of about 15,000 years ago.

Those who remained in the Ganga and Indus valleys Ganges valley have had a continuity of 35,000 years of settlement without interruption by ice age. In my opinion, after the end of the ice-age around 10,000 years ago the migrants from Northwest India again began to resettle along the Euphrates and Tigris rivers where they introduced agriculture. Since then this group of speakers of the Indo-European languages has introduced agriculture to virtually all regions of Europe.

There are indications of later waves of migrations to India. Apparently, about 5000 years ago a group from Southern Iran came to West and South India. They probably assimilated with the earlier migrants resulting in the Dravidian culture of South India. These Dravidian languages also differ from the other two groups of languages in India. After the domestication of horse ca 4000 years ago in Mongolia and Caspian regions the Vedic Aryans came to India. They brought Vedic Sanskrit that has similarity to the Hittite and Germanic branches of the Indo-European language tree. The phoneme and grammar of these alphabet based languages emerged in the modern Afganistan region after 200 CE when they came in contact with the Prakrit speakers who had their own alphabets, script and rudimentary grammar.

Prior to the arrival of the Aryan culture another group of people flourished in the Ganga valley. Their languages (outside the Dravidian family) form the basis for virtually all the modern regional Indian languages with varying contributions from Sanskrit and Persian. The present Nagri script also evolved out of the Brahmi script of the pre-Aryan origins. As the Vedic Sanskrit was purified and formalized between 400 BC to 300AD, the earlier

languages were called the natural or Prakrit languages. The pre-Aryan inhabitants did not believe in the God or Omniscience.

Each Arihant (Figure II-1) is called a Tirthankar (literally builder of the landing place) who provides a strating point for the changing times while building on the prior knowledge and ideas of their intellectual predecessors. Here the conceptual interplay of two words is significant: Tirth for landing point or bridge, and nay for the reasoning device that for going from one poit to another. New Nay is a significant part of the 12 th Ang of each Tirththankar for reasoning to resolve contemporary conflicts and create conditions for a change.

All the 24 Arihant lived in the Ganga Valley of North India (Figure II-1). Several were born in Ayodhya, Sarnath and Hastinapur. These locations are also prominent in the current Hindu belief system, possibly inspired by the local traditions adopted by the Ary migrants (1500 to 700 BCE). The epic of Ramayan (written around 700 BCE) is set in the Ayodhya region of unknown period. The Mahabharat (written around 200 BCE) is set (around 1000 BCE) in the Hastinapur region, a few hundred miles north of New Delhi. Historicity of the characters of these epics remains to be established although some of them are clearly from the Afghanistan or farther west. Influence of these epics and local customs in the shaping each other and the Hindu traditions and thought is unquestionable.

Table II-1. Anugam -based Shared Knowledge (*Vangmay*).

* Rishabhnath (ca. 3000 BCE) outlined the syllogism:

उपप्पानेई वा विगमेई वा धुवेई वा

Inputs and outputs make up the net total of the change in the reality. The conservation relationship of input (*upappa, utpad*, product) and output (*vigam*, *vyay*, expenditure) to the net (*dhuv, dhrouvy,* sum-total) applies to all real worlds that are finite including matter, energy, money, information, knowledge, occupied-space, and event-time.

* Twenty-four Arihant (Rishabhnath to Mahaveer, ca. 3000 to 527 BCE, Figure II-1) developed other reality based syllogisms such that "Demonstrated relationship of a new assertion to an existing argument reinforces the argument."

* Vardhman, the Mahaveer (599-527 BCE) consolidated, organized, refined, and taught methods to develop reality-based shared knowledge without *ad hoc* or unsubstantiated assumptions.

* As the leaders of the original group (*Mool Sangh*) of Mahaveer his main disciples Indrabhuti Gautam and Sudharm organized the discourses in twelve parts (***Dwadash ang***) during 527 to 515 BCE. As the discussion leader Gautam also organized the rules for guiding reason. Gautam' s Nay or Nyay-Sutr was compiled by Akchpad (ca. 100c). Commentaries by Vatsyayan (400c) and others have provided the basis for the development of organized debates (vaad), not only with a developed convention of language and grammar, but also in terms of what can be asserted in accord with syllogisms based on the evidence and intrinsic (*vyapti*). In the later centuries the thrust of Nay shifted from empirical reality-based reasoning towards the use of Nyay (the Nay-based conclusions) with the authority of a priori as evidence. By 1320c in *Tattvachintamani* by Gangesh the focus of Navy-Nyay is on alternative definitions, associations and pervasions (*upadhi*).

Sudharm probably consolidated the anugam: ***the criteria based process to validate the perception of the constant quality or the gun = basis, property, intrinsic.*** This part of itthivay, the 12th

ang (Table II-3), to deal with the change of perception is hall mark of Jeevatthan. The collected works of the 12 Ang were orally transmitted in Patliputr through a continuous line of monks for 8 generations. Seeing the inevitable, as the political climate took a turn for the worse, Bhadrbahu (II- 9) and some of his disciples moved to South (ca 350 BCE). Soon thereafter (ca -335BCE) another group of his disciples also moved to West India.

Context for itthivay: The main concern of the itthivay of Mahaveer is to minimize the doubt and uncertainty in the changing contexts. Unequivocal affirmation or negation is a long terms process based on the successes of the present and past behaviors. Since the future never arrives, at any given point all one can expect is to avoid identified contradictions and inconsistencies. Behaviors are modified within the context emerging criteria to be validated with practice in the broader historical and cultural contexts. Thus the goal of itthivay is to navigate through the emerging challenges while being guided by the bed-rock of the prior knowledge of the 14 Purv Ang that is the repository of the ways in which people in the past dealt with situations.

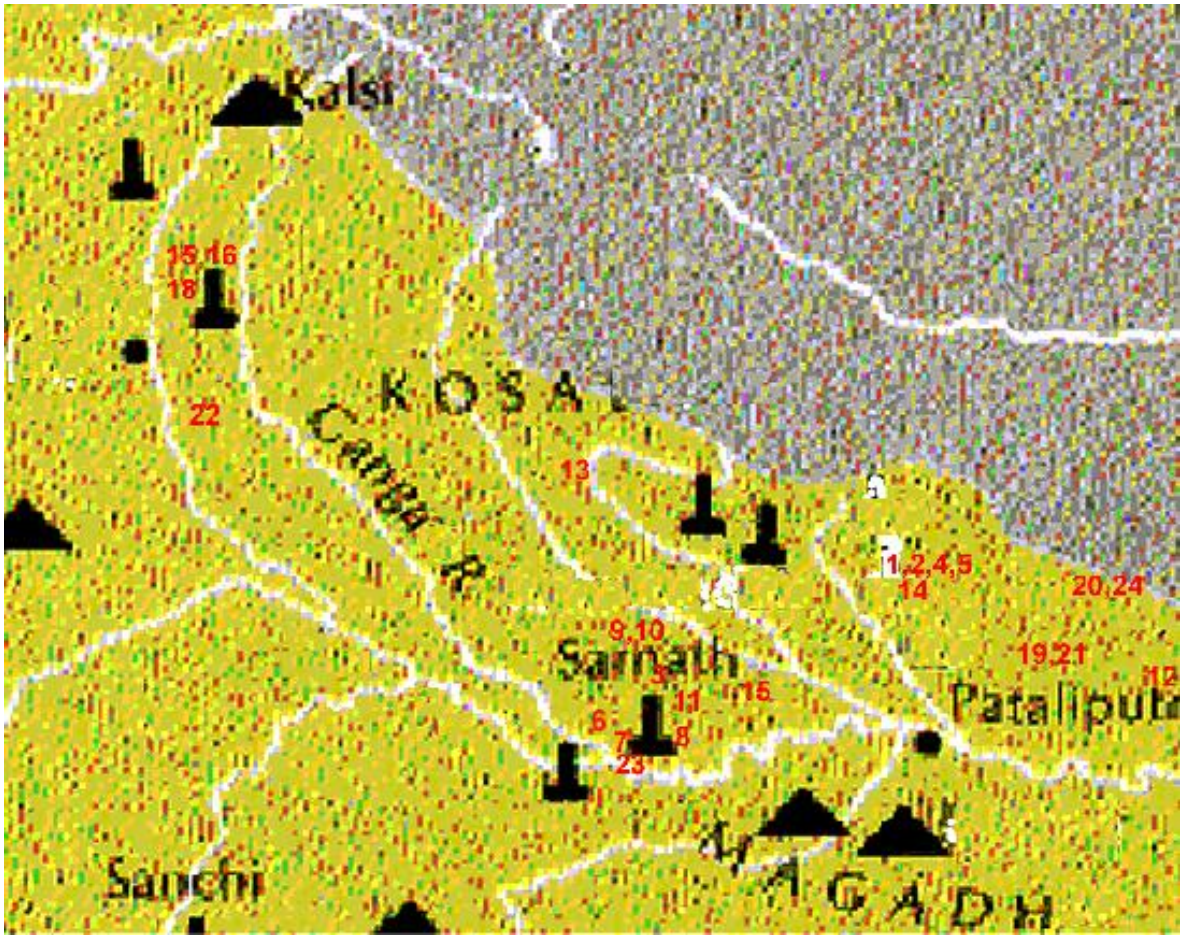


Figure II-1. The Ganga Valley of the North India. The places of birth of the 24 Arihant (-3000 to -600c) are in red #.

1. RishabhNath	Ayodhya	13. VimalNath	Kampilya (near Kayamganj)
2. AjitNath	Ayodhya	14. AnantNath	Ayodhya
3. SambhavNath	Shravasti (near Bahraich)	15. DharmNath	Ratnapur (near Faijabad)
4. AbhinandanNath	Ayodhya	16. ShantiNath	Hastinagpur (near Meruth)
5. SumatiNath	Ayodhya	17. KunthuNath	Hastinagpur
6. PadamPrabhu	Kaushambi (near Prayag)	18. ArNath	Hastinagpur
7. SuparshvaNath	Varanasi	19. MalliNath	Mithila
8. ChandraPrabhu	Chandrapur (near Sarnath)	20. Munisuvrat	Rajgrah (near Nalanda)
9. Pushpdant	Kakandi (near Devaria)	21. NamiNath	Mithila
10. ShitalNath	Bhadrapur	22. NemiNath	Dwaravati (near Shikohabad)
11. ShreyansNath	Singhpur (near Sarnath)	23. ParshvNath	Varanasi
12. Vasupujya	Champapur (near Bhagalpur)	24. Mahaveer	Kundalpur (near Nalanda)

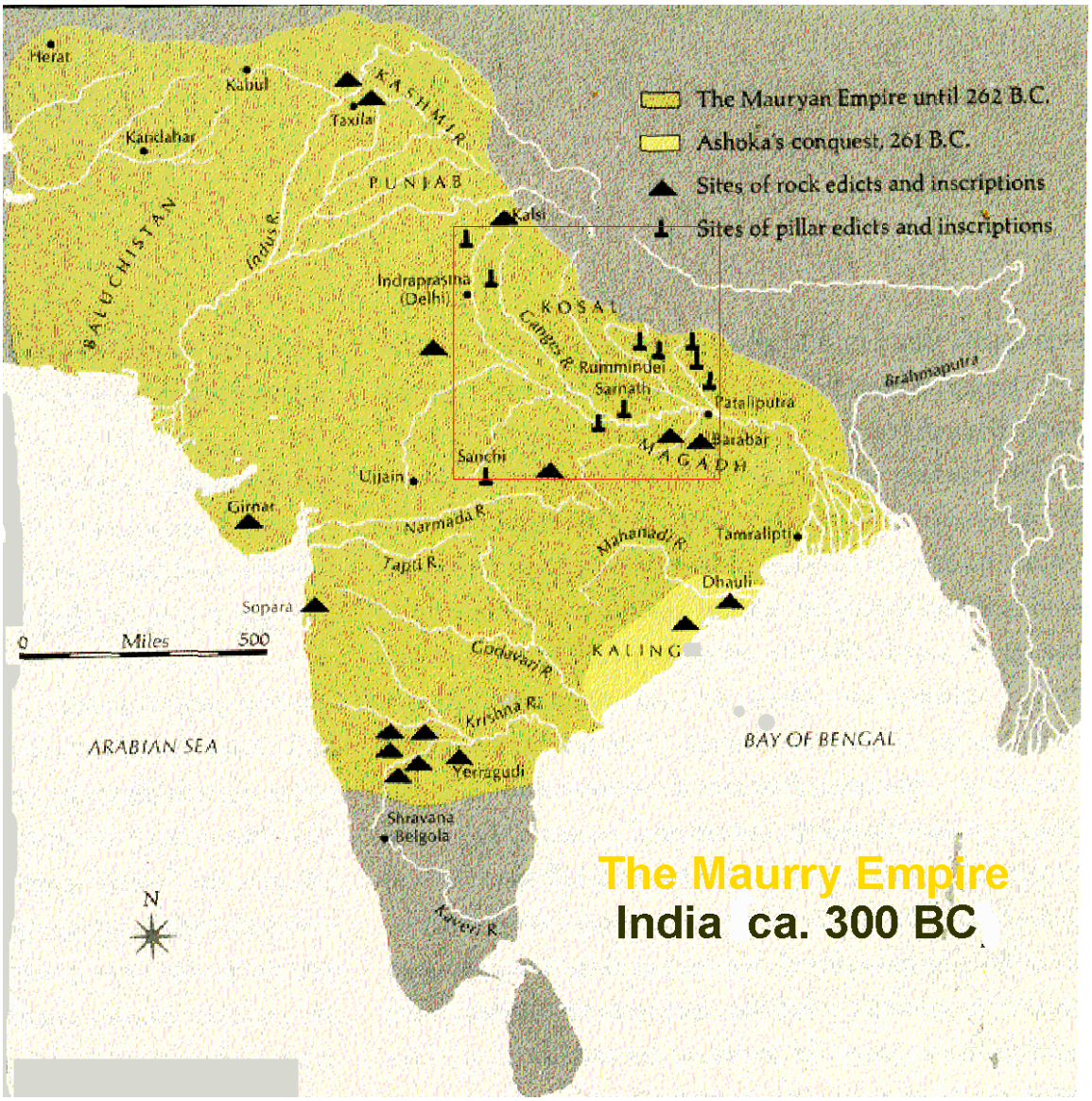


Figure II-2. Map of India with the Maurya (Mauryan) Empire (ca. 300 BCE) marked in color. Key rivers and regions of ancient significance are indicated. The Sindhu (Indus) river in the North-West goes through the region of the Indus Valley civilization. Details of the Ganga Valley region are shown in Figure II-1. The historicity of this period and other details are very well documented through the various edicts and inscriptions. Major sites are marked in the map.

Historicity of the last 3 Arihant is now established (Roy, 1984): Neminath (ca -1000c in the Mahabharat period), Parshvnath (- 800c) and Mahaveer (-599 to -527c). Hastimal (1971) has compiled the traditional material that also provides insights into the thought processes and contributions attributed to all the 24 Arihant. A significant point about the period spanning the Arihant is that the knowledge of the prior Angs is retained along with the itthivay of each arigant. Put another way, each Arihant provides a new perspective for the changing times while retaining the relevance of the earlier knowledge.

Note: There is virtually no written material that goes back to the period before 200 BCE. Mahaveer must have been convincing in his arguments because by all accounts he persuaded many laymen and scholars to change their minds. The views of this book-less (*niggantth*) are consistently debated and quoted even today. In the traditional Jain sources there is remarkable unanimity about Mahaveer and what happened for the next 250 years after him. It is not surprising that differing accounts appears after the original group dispersed form Patliputr around 350 BCE (Chapters II-7, 8 and 9).

II-3. Live, Let Live, and Thrive

The lamb brought to alter for slaughter eats the leaf garland with which it is decorated. The frog caught in the mouth of the snake desired to swallow the fly flying near its mouth. The man condemned to die drinks milk and ghee. When they see serpent carved in stone they pour milk on it. If a real serpent comes they say, Kill, Kill. To the servant of the god who could eat if served they say, Go-away, Go-away. But to the image of god which can not eat they offer dishes of food. In such activities they revealed no uncertainty of their own correctness. Yet soon they ceased to listen to each other. Such is our life.

- An ancient poem

Reality-based approaches to improve human condition often encounter the impasse if contradictions are heeded and inconsistencies are not seen. Mahaveer and Buddh argued that the prudent course of action even under such conditions is to avoid irreversible actions, and then think. Violence against the living forms denies survival whereas wishful representations violate reality. Although intuitive, their approach stands alone among the traditions in asserting that (a) all humans can understand their world, and (b) all living beings deserve to live and thrive. This reality-based approach has deep secular basis for probing pithy issues of human condition.

A compassionate understanding of the living world is the basis for sustainability for all. Contrast *Live and let Live* against *Kill or Get-killed*. For harmony between self and non-self it is necessary to recognize survival instincts of all including their

needs, drives, desires, and aspirations for individual and social existence. It is the only acceptable end-point for conflict-resolution. As we know now, 600 years before Christ, Mahaveer (-599 to -527c) and Buddh (-550 to -480c) crystallized such secular ideas in the Ganga Valley.

Activisim of Mahaveer and Buddh remained rooted in the lay followers but took different turns. Followers of Mahaver remained in India where they adhered to non-violence and atheism without any understanding of the underlying arguments. Outside India, the appeal of compassion brought a greater number in the folds of Buddhism. In the words of a Sinhalese poet (ca. 900 AD): *Thus there are the Buddhas incomprehensible, and incomprehensible is the nature of Buddhas, and incomprehensible is the reward of those who have faith in incomprehensible.*

Historical Digressions and Detours

1. Around 600 BCE about 4000 miles north-west of the Ganga valley, Thales a Phoenician started the Greek tradition of thought. He wrote nothing. Others mention that Thales proposed that new knowledge is developed from testable information, and not as wisdom or omniscience. For example, Thales noticed that the mast of ships going away from port is last to disappear from sight. As also noticed by many others the mast of the incoming ship is seen first. However, Thales was first to assert that this phenomenon is because the surface of the Earth is spherically curved. He went on to develop other ideas of astronomy and physics.

2. Information about the incoming ships is critical for businesses. Arrival of new merchandise was critical for the price fluctuations. In 1600 CE, a Dutch lens maker applied for a patent for telescope.

A friar communicated the idea of a "tube with lenses" to Galileo (1564-1642). Based on this he ground his own lenses and designed a 30x telescope. The news of its potential use arrived at the Italian port. Galileo sold the device to the merchants. However, he himself tuned it to view moon and distant planets. He concluded that such heavenly bodies were not much different than the surface of the Earth.

3. In 640 CE the Arabian conqueror Amru burnt down the biggest library ever assembled after burning of the library in Alexandria a few centuries before. He did so at the following advice of his spiritual leader Caliph Omar (according to Historian Ibn Khaldun): "If the books contain anything of truth, we have received from God a better guide. If they contain falsehood, we are well rid of them."

4. History repeated itself when in 1605 Rosicrucians claimed that they have the book-of-all-books. Christian church went on unparalleled rampage after that. They later discovered that the book has been misplaced. Intellectually inclined believers of unification look for a single set of equations, based on Theory of Everything, from which all else springs. Meanwhile, other mortals keep on asking is the end in sight?

Mahaveer built his arguments with the insight that doubt (*syad*) is intrinsic in individual and social perceptions. It is reduced in stages through criteria-based search rooted in the reality-based (***sat***) practices and behaviors. Since *no man is an island*, we benefit if we rely on the continuity and plurality of thought that emerges from feed-back and interactions that overcome human limitations. The search is likely to succeed if it is not rooted in misperceptions and contradictions in convictions

of faith or unsubstantiated beliefs based on un-tested assumptions.

II-4. Millennium of Mahaveer and Buddha

Some words are destined to wait for years or centuries for their fulfillment.

Both Mahaveer (Mahvira, Mahaveera, 599-527 BCE) and Buddh (Gautam Buddha, 550-480 BCE) articulated that it is within human potential to improve the human condition. It stirred geopolitical upheaval in the Ganga valley. Ashvghosh (ca 200 CE) wrote that Buddh began to think about human condition after hearing the *song of the wind* - possibly referring to the wind of socio-political change blowing in the region. Both left home and sought enlightenment while rejecting the Vedic priori as the *wordless edict of the immutable supreme who knows no uttermost*. Both are admired as *wiser than wisdom that is thy simple lore*, and *knowing belike, as children know, more than we dream*. Both made people aware of their ability to make informed decisions. Both discouraged ritual and gobble-gook of fanciful rationalizations as in *it is the will of God*, *God works in mysterious ways*, or the magic bag that takes in anything and gives out anything.

An attempt to reveal truth is not a revealed truth. With a concern for humanity both Buddh and Mahaveer gave understandable worldly 'reasons' for ethical behavior through which humans feel empowered irrespective of their origin or station in life. They built concepts from tangible experiences illustrated through understandable parables. For example to a mother struck by grief of her child Buddh suggested that she should find some mustard seeds from the household who has never been struck by grief. Of course no such household exists: *All creatures have and strive to keep life. All life is linked and kind; and*

what we slay have given meek tribute of the milk and wool, and set life, which all can take but none can give.

Simply profound (from Ashvghosh: Buddh Charit)

The self guides: *Stronger than woe is will you suffer from yourself. It knows not wrath, nor pardon. That which ye sow you reap - so is man's fate born.*

Tell us: *Wiser than wisdom is thy simple lore for forays into mind. Speak, if thou know a way more excellent. If not, peace go with thee.*

In the end: *Issues upon the universe that Sum of debit and credit for function and substance*.

Mahaveer contributed at four major fronts. He argued for a seular and egalitarian social order. His code of conduct is based on nonviolence towards all living beings. He encouraged continuing search of validity and veracity by reasoning with the content and context of a concern by reducing identified doubt and uncertainty. He extended and reformulated the earlier Arihant tradition of building shared knowledge with criteria-based approach. In his interpretation a living being acts and bears consequences of its actions. Such *I (atm) experiences all tangibility through senses. The meaning and significance of what I access directy (pratyakch,* in front of the eyes*) can be validated by indirect (parokch,* behind the eyes*) evidence*. It calls for stringent external criteria and evidence for validity where the quality of perception evolves incrementally with degress of restraints (#9-23 in Vol. I). It relies not only on words and thoughts, but also places greater emphasis on inputs from consistent conduct and behaviors.

The Budhdist enlightenment places lesser emphasis on the role of individual: *Na Syami aham, Na syati lok* (If I do not exist, perhaps the World does not exist). It augments view of human

potential. It is also inherent in *by following right path individuals can spontaneously attain enlightenment.* The broader appeal of Buddhism is in such user-friendliness that acknowledges human weakness with compassion.

Mahaveer revived and echoed the pre-Vedic world-views of the Ganga Valley, i.e. perceptions validated by direct sense experience (*Pratyakch*) are the only independent guide for behavior. He rejected the class structure of the newly arrived Ary (Aryans). He argued against rituals. He rejected belief in forms of supreme or omniscience as inherently contradictory. It called by revision of Vedic a priori that the scriptures are of non-human (*aporushey*) origins (Ved, Smrti, Shastr and Puran). After 500 BCE the Vedant (post-Vedic) constructs are elaborated as *Upnishad*, and assembled as *Samhita*. Interpretation and commentary (*bhasya*) by Shankar (ca 800AD) solidified the hold of omniscience as God-incarnate on the Hindu mind and society.

Search for Valdity

Certainty of the past and present is the basis for successful future. Virtually all ancestor and god-based traditions rely on the omniscience of the past for the certainty of the present and to chart the course for the future. It looses its usefulness if omniscience of the past is preserved and perpetuated with omnipotence of faith supported by fear of power and authority.

In the Arihant tradition, the starting point is the reality of the present as perceived through sense inputs. It is to be used with feedback to validate perceptions (past) and address concerns (future). Such insights set the course for future actions with mid-course corrections while learning from trial and error. Wider discussion also permits learning from the experience of other.

Mahaveer emphasized concern whereas Buddh emphasized compassion towards all beings. Both acknowledged the egalitarian view that all being attain tangible identity (*atm* not *atma*) through their own effort and actions. Humans have ability to make decisions and choose a path to express self identity as an individual. Both dismissed a role for external will, grace, and judgment. Yet some branches of Buddhism invoke moderate versions of human enlightenment through prescribed path. Deeper appeal the original views of Mahaveer and Buddh has survived and evolved in traditions that have resorted to different degrees of rituals. Both promote an atmosphere of discourse, debate and dialog with remarkable intellectual openness and honesty. To varying degree both emphasize that the only acceptable interpretation of thought and words is through practice. Since human actions have consequences, it calls for negation of contradictions and irreversible actions. Social activism of egalitarian thinking still persists. Since all humans have potential, it calls for organization that does not classify potential of people at birth.

Both Mahaveer and Buddh encouraged empirical search for truthful behaviors (***Dharm*** or ***Dharma***). Resulting perceptions are validated by reasoning (intellect) about the inputs and outcomes in relation to the past experience. Here the mind (*man*) does not exist outside the reality, and the represented reality exists within the constructs of mind. Through empirical and analytic inferences from such inputs one arrives at inferences of increasing validity about the basic structure or *the unchanging in the appearances*. Real world (*sat*) inputs provide epistemological basis without resorting to ontological mentalism and sophistry of the external grace (*religion*).

The focus of the Syad-Nay of Mahaveer (III-22 to 24) is to identify contradiction and inconsistency to resolve doubt. It also facilitates separation of the unknown from the non-existent. Altogether it facilitates more viable perceptions and actions even in the absence of complete knowledge. The focus of the Buddhist tradition shifted to paradoxes, particularly that of the logical nothing (***shoonyata***) against which all existence is represented. Thus the Buddhist ***prajna*** emptiness (consciousness behind *know thyself*) dissolves subject-object distinction in representation.

Three World-views

Dharm (behavior) mirrors the world-view of the action and consequence cycle which to varying degrees are motivated by self as well as the history.

■ The Jain-View is that discrete parts of the world, including entities, events, and behaviors change in stages. Behaviors evolve as we learn from our own experiences and of others. Thought and practice change lives. A qualitative change is in the perception of the sense inputs (***Pratyakch***) is motivated by an individual self. Validity of perceptions increases in stages as the accumulated evidence coheres as cognition and knowledge. It is prudent to be aware of what *one does not or may not know*, and to discard beliefs that may rely on the non-existent. While avoiding dead ends and wrong forks along the way, the goal for an individual is to arrive at constructs that are useful guide for future behaviors.

■ The Buddhist-view assumes that sense- experience is inherently unreliable. Therefore a useful starting point is that there is nothing real (***Shoonyta***). Valid perceptions and behaviors lead to spontaneous enlightenment (*Pragya*) of the internal cognition.

■ Vedic and Vedantic beliefs assert that an omniscient creator and care taker guides all beings. Such all-pervading Brahm is a non-entity that is beyond sense experience, but it can be experienced through meditation.

Pre-Mahaveer Geo-political context: Both the Indus valley and the Ganaga valley civilizations (ca. -2700) used cow for milk and bulls as the source of mechanical power. Horse did not arrive on the scene until about 2000 BCE. The horse-based technologies and practices, including war and diseases from the Middle East, brought waves of upheavals. By about 700 BCE these herders had settled in the Ganga valley, whereas in the Sindhu valley they remained invaders for a long time to come. These included Persians (400 BCE), Alexandar (327 BCE), Gaznavi (1000 CE), and Babar (1500 CE). With the advantage of horse and methods of warfare the invaders and the herders resorted to violence to establish their superiority fueled by faith in the absolute and omniscient. Their methods of dealing with other beliefs and practices were influenced by ideals of their faith. These encroaching cultures and beliefs clashed with very different views and practices that prevailed in the Ganga Valley.

Born only a few hundred miles apart and within an interval of few decades, both Mahaveer and Buddh took a stand against the practices inspired by the faith in the absolute that was described as the "unknown and unknowable omniscience." Although the migrants changed somewhat by the arguments of Mahaveer and Buddh, however within the next 300 years the followers of Mahaveer and Buddh had to leave the Ganga Valley.

The Vedic prior knowledge

According to the Vedic oral tradition the four Vadang (scriptures of Ved, Smriti, Shastr and Puran) are the four pillars of divine guidance for humans. These words (texts) can not be interpreted to provide a single valid meaning, validity of their claims can not be tested, their relevance for consequence evaluation is questionable, and their appeal for violence and caste stratification is not in the interest of human welfare. These and other aspects of the Vedic belief system were criticized by Parshva Nath, Mahaveer and Buddh. Thus not only Jainism reemerged and Buddhism thrived in the post-vedic (literally Vedant) period (-700 to -200c), but Upnishads, and Samhita and Bhasya were also provided by the human sages. However, the Brahminical Hinduism never developed a tradition of shred knowledge nor did it use the Nyay methods for validation of insights and the philosophies.

These followers of both went, literally "begging" as monks to other parts of India. In South and West they found enduring support among the ordinary people. They rarely had royal patronage, and certainly no backing of the armies. The followers of Mahaveer found a hospitable environment in Central and South India. In the later years alliance of Buddhist Sangh with rulers in India put them in direct conflict with the alliance of Brahmins with the rulers. As a result by 1000 CE Buddhism virtually disappeared from India. The Buddhist monks carried the message to Afghanistan, Shri Lanka, East Asia and Japan. These transplanted traditions of Buddhism now have international influence.

The followers of Mahaveer did not make political alliances with the rulers nor pose threat to the rulers. The lay Jain community continued to be influential. The Jin monks stayed in touch with the grass-root for their survival and support. Thus they developed a deep understanding of the concerns and potentials of common people. It possibly encouraged reality-based egalitarian world-views such as *more peace of mind comes with fewer skeletons in closet*. The structure survived and thrived

without a centralized authority or support from the armies or the State. It did not resort to dialectic, conversions, or other forms of polarizing practices. With the grass-root support and practice-based thought both laity and monks retained their identity as Jain in virtually all parts of India. Belonging to the tradition comes from practice. Many of the Jain monks and the Arihants are said to be born as non-jains. Thus the social order is not by birth as is the case with the Brahminical caste system. Nor the membership is to be approved by some higher authority. These egalitarian practice-based-thoughts are often wrongly portrayed as the "religions" or "church" in the style of organized Judeo-Christian-Islamic faiths for (omniscience)-thought-based-practices.

It is said that Mahaveer established the Jainism. It is correct only in the same sense as Shakaracharya (ca. 800 CE) started the Hinduism. Mahaveer revived the more ancient tradition of Arihant for a reality based action and consequence evaluation. Mahaveer had a significant reforming influence on the violence prone Aryan practices and rituals. As a result the Vedic belief system has evolved into a more pluralistic and heterodox world view. Many of their Hindu descendents have adopted vegetarian and other nonviolent practices.

Upnishad: Attempt to break from the Vedic *a priori*. Origins of the Vedic hymns is traced 1500 to 1200 BCE period when the Aryan herders came to the Ganga valley from Afghanistan and father West. These herder migrants were quite aware that their myths were not factual accounts of reality. Their Gods of epiphany and visions are not meant to explain or even express cosmic mysteries:

Who really knows? Who will proclaim it? Whence was it produced? Whence is this creation? The gods came afterwards, with the

creation of this universe. Who then knows whence it has arisen? Whence this creation has arisen - perhaps it formed itself, or perhaps it did not - the one who looks down on it, in the highest heaven, only he knows - or perhaps he does not know. [From Rigved, translation by W. Doniger]

The attitudes changed as the herders began to settle in the Ganga valley and came in contact with city cultures of the City States of the Ganga Valley. Under the influence of the indigenous cultures the Vedic a priori evolved in to the post-vedic (*vedant or vedanta*) constructs based on discourse and dialog that facilitates personal search. For about 500 years (between 800 to 300 BCE) the aryan hermits (Brahm Rishis) began to provide their own interpretations (*upnishads*, *up* for near, and *nishad*, sit). Prefixes (*aranya* or woods, *kath-up*, difficult) of about 40 available discourses have themes of personal curiosity and wonderment.

The post-Vedic narratives speculate on issues ranging from life and death to ultimate reality and the universe. Water (*salilain*) is considered an all pervading Reality (*tadkain*): Since water evolved through action of the heat (*tapas*), the contradiction like water and heat is inherent in existence (*sat*) and non-existence (*a-sat*). Soon the concept of *Atma* (soul), an entity that makes a living body different than the dead, substituted the Vedic Creator with Param Atma and Brahma. Note that this concept of *Atma* has little to do with the *atm* as an individual self. With the Vedantic revival, such ambiguities evolved further to cosmic soul in the writings of Sankara and Ramanujam. They also encouraged stratification of the moral codes into the caste system (possibly based on *Jaimini Sutr* and *Manu Smriti* from 800 to 500 BCE). A cast-ridden society without strong intellectual cohesion and camaraderie is much easier to exploit. It prepared the ground for 1000 years of subjugation by Mongols, Moguls and British.

I am afraid is not an uncommon response when faced with unknown. Such concerns often lead to *who am I* and *what am I here for* type of questions. Building on the adage of the earlier Arihants that *I can experience and access it all* Mahaveer asserted that *I exist because I decide to act and suffer consequences* which is a necessary part of survival and individual identity. Such identities follow from the quality of perceptions (gunasthan) that guide interactions with self and others. The judgmental god of Abrahamic faiths (Judeo-Christian Islamic) demands submission as *better be afraid of me*. Buddha observed *if I do not exist, world does not exist*. Descartes' *I think, therefore I am* has apparently emerged as Eurocentric *world was made for me and I can think for it*. Other incarnations of such confusion include *if it is not internet it does not exist*, *do not force me to think*, or *do not confuse me with facts*.

An Upnishad aphorism, *vakyovakyam*, appeals to look for the 'purpose' behind an assertion. An understanding of the intent and meaning is needed if we wish to go beyond the stage of literal post-mortem or after-the-fact analysis (*aanvikha*). This attempt to understand the meaning and intent was denounced in Ramayan (Balmiki) and Manusmriti as anti-Vedic. As for *who am I* the Vedic and Vedantic dictum os *Tat tvam asi* or you are (just) that as in this or that. My impression, after readings of the Upnishads, is that such circular and paradoxical assertions are attempts to integrate the local beliefs and aspirations of individuals but without shedding any light. In their search for unity in multiplicity, they wonder out aloud: *When are we born, where do we live, and whither do we go*? Then, as if in frustration one resorts to *eti eti* (this too and that too) or to *neti neti* (no it is neither this nor that. Note that *eti eti* and also *neti neti* is contradiction to reality (Chapter III-24). Referring to such circularity, in response to the question by

Maharishi Mahesh Yogi why Beatles were leaving him, John Lennon said *You are the cosmic one; you ought to know.*

Upnishadic discourses leave the impression that these are attempts to integrate local thoughts into Vedic traditions to synthesize theistic unity. Such constructs are still believed to be the outcome of divine grace. Rituals were designed to influence the divine judgment. In their musings Upnishads fail to touch the complexity of real world (see III-28). Nowhere do they come around to the idea of the primary role of humans in shaping their own course without grace and omniscience or *niyati* (fate or destiny). Soon it was widely recognized that the Vedic assertions are not meaningfully interpretable (see Nay on this site), let alone help in formulating a cohesive body of knowledge. Vatsyayan (ca 400) noted: *Reasoning is not mere study of self, like the Upnishad. Successful behavior results from evidence based knowledge of reality. Method of Nay (reasoning) has no relevance for objects that are unknown, nor for those that are known for certain. It has relevance only for those about which there is doubt. As it is said (by Gautam), final determination (**nirnay**) requires consideration (**vimarsh**) and resolution (**pratipaksh**) of doubt to cognize reality (**tattva-jnana**).*

Seminal Thinkers

Mahaveer (India 599-527 BCE): World is knowable to humans, knowledge is a shared human enterprise for humane use to be guided by nonviolence and doubt about certainties.
Buddh (India 563-483 BCE): Compassion and personal enlightenment through a path.
Confucius (China 551-479 BCE) Prior Knowledge from Ancestors and the State
Thales (Greece) 624-545 BCE) First prediction of Solar Eclipse; Magnetism
Pythagoras (581-497)**, Socrates** (470-399); **Plato** (427-327), **Aristotle** (384-322), **Lao Tze** (601- ?), **Zoroaster** or Zorathustra of Persia or Iran (630-533).

It appears that this was the period of questioning through which humans began to take charge of human affairs by

discarding wide ranging make beliefs to reconstruct a more equitable world in which an individual is the mover and doer in the social context.

To recapitulate Buddha and Mahaveer argued to break away from the pantheon of deities and self-referential beliefs. Their premise is that all *beings* aspire to realize their potential within the bounds of shared extent reality. For humans who can choose and make decisions they emphasized a secular role for actions (*karm*) and behaviors (*Dharm*) in shaping future outcomes. As for the unknown 'nothing' of significance lies beyond here and now; everything that is there to know is known or will become known with time; we may not know what lies ahead but the future is as real as the past and present.

II-5. Socio-political Context

Motivated by sympathy for emperors and lions history is polluted as new correcting fluids are invented for each age. Reality is flattened and artifacts are created as dimension of time is removed and those of emotions and concerns are excised. If diachronic can be flattened into synchronic, the reverse should also be possible through thought aided by creative imagination.

All the Arihants lived in the plains of the Ganga valley of North India. This 1500 x 800 mile region has many rivers fed by the Himalayan glaciers. They remain navigable most of the year, possibly except in the monsoon season. It was one of the most fertile regions of India. The river trade contributed to prosperity and influx of new ideas. City-states had existed in this region at least since 1800 BCE. Some of these had tradition of organized social institutions, tax system, and support for common endeavors by state as well as through private charity. By 1000 BCE it was already in extensive communication through the river-ways. Geographical location of Patliputr (Figure II-1 and 2) made it an important center of commerce and culture.

Both Mahaveer and Buddh were born as prince in two of the city states of this region. The only significant difference between their upbringings was that while growing up Buddha lived a very sheltered life, whereas Mahaveer was encouraged to interact with all. Both renounced comforts to seek satisfaction and fulfillment through ascetic life. Even to this day both the traditions appeal to people who have had their survival needs

fulfilled. Possibly only such people can take a long-term view of the human condition.

Both Mahaveer and Buddh actively opposed division of humans on the basis of birth. The argued that rather than traditional *Jati* (family trade) or the *Varn* (social order) it is the individual behavior that shapes personal identity and growth. Three centuries later the Maurya Emperor Ashok developed these ideas as *Dhamma* code of conduct for a social contract for peaceful coexistence. These three are the only Indians who are included in a ranking by John Hart (1972) among *The 100 Most Influential* in the recorded world history. Not coincidentally, their ideas are also the bed rock of the secular and pluralistic republic of modern India.

Excerpts from Edicts of Devanu-piya Piyadassi (dear friend) Ashok (ca. 265 to 230 BC) on stone inscriptions on *Dhamma:* *A secular social code of conduct and social contract for peaceful coexistence.*

- The beloved of the Gods, Piyadassi the King, has had this inscription on Dhamma engraved. Here no living thing is to be killed or sacrificed. Piyadassi sees much evil in holding of festivals. Killing of animals in the Royal kitchen is also reduced.

- Medical services for the care of humans and of animals have been provided in the domains of the Piyadassi and the neighboring kingdoms. Medicinal herbs have been planted where they do not grow. Along the roads wells have been dug and trees planted for the use of men and beasts.

- Officers of the state will go on regular tours for other duties and to instruct and explain Dhamma to people. It is good to be

obedient to one's mother and father, friends and relatives, to be generous to Brahmans and Shramans, not to kill living beings, to spend little and own minimum of property.

- Standing firm on Dhamma the king Piyadassi, his sons, his grandsons and his great grandsons will advance the practice of law until the end of the world. But there is no practice of Dhamma without goodness, and in these matters it is good to progress and not to fall back or be satisfied with shortcomings.

- It is hard to do good. He who does good does a difficult thing. But he who neglects my reforms even in part will do wrong, for sin is easy to commit. I have appointed officers of Dhamma for the welfare and happiness, and administration of charities among those devoted to Dhamma. They are busy in promoting the welfare of prisoners should they behave irresponsibly, or releasing those that have children, are afflicted, or are aged. May it endure long and may my descendents conform to it.

- At all times, whether I am eating, or am in the women's apartments, or in my inner apartments, or at the cattle-shed, or in my carriage, or in my garden's - where ever I may be, my informants should keep me in touch with public business. Thus everywhere I transact public business. Any dispute about anything I order is to be reported to me immediately at all places and at all times. I find no satisfaction in the hard work of the dispatch of business alone. I consider that I must promote the welfare of the whole world. Hard work and the dispatch of business are the means of doing so. Indeed there is no better work than promoting the welfare of the whole world. Whatever may be my great deeds, I have done them in order to discharge my debt

to all beings. May it endure long, but this is difficult without great effort.

- Piyadassi wishes that all sects may dwell in all places. All men seek self-controls and purity of mind but have varying desires and varying passions. They will either practice all that is required or else only a part. But even he who is generous, yet has no self-control, purity of mind, gratitude, and firm faith, is regarded as mean.

- People, especially women, practice various ceremonies and rituals that are trivial and useless, doubtful and ineffective. On the other hand, effectiveness of Dhamma is lasting --- because it makes possible for people to escape evil inclinations. But this is difficult for men, whether humble or highly placed, without extreme effort and without renouncing everything else, and it is particularly difficult for the highly placed.

- Piyadassi honors all sects and both ascetics and laymen, and considers essential the advancement of the essential doctrine of all sects. It takes many forms, but its basis is the control ones speech, so as not to extol one's own sect or disparage another's on unsuitable occasions, or at least do so mildly on certain occasions. On each occasion one should honor another men's sect, for by doing so one increases the influence of one's own sect and benefits that of the other another men. Whosoever honor his own sect or disparages that of another man, wholly out of devotion to his own with a view of showing it in a favorable light, harms his own sect even more seriously. It is the desire of Piyadassi that all sects should be well informed.

- Piyadassi feels remorse that during the conquest of the kingdom of Kaling a hundred and fifty thousand people were deported, a hundred thousand were killed, and many times that number perished. It is also deplorable that the survivors of the war continue to suffer from the violence, separation of their loved ones, and misfortune of others. This participation of all men in suffering weighs heavily on the mind of Piyadassi.

- Since the empire is large, much has been engraved and much has yet to be engraved. There is considerable repetition because of the beauty of certain topics, and in order that the people may conform to them. In some places it may be inaccurately engraved, whether by the omission of a passage or by lack of attention, or by the error of the engraver.

Note: These excerpts are selected from the fourteen major rock inscriptions that mainly relate to the thought behind the policy of Dhamma [Excerpted from *Ashoka* by Romila Thapar (Oxford University Press, Delhi, 1997)]. Twenty-eight edicts of Ashok are known. The pillar edicts address more direct political issues, where as the minor edicts relate to the decisions of more personal nature in relation to the Buddhist practices. All but one edict is in Prakrit language in Brahmi script. The Kandhahar edict is bilingual in Greek and Aramaic. This is particularly significant because the Sanskrit Grammarian Panini lived in Kandahar.

Social and political forces strengthened by geography of the region played an important role in shaping the ideas of Mahaveer and Budhha. Agricultural sufficiency of the fertile Ganga valley brought influx of people with diverse know how and beliefs. By 600 BCE the city states of the Eastern Ganga Valley

region was brimming with ideas and practices. Some of these states were consolidated under the political umbrella of the Magadh Empire. This meant paying tribute (taxes) to the emperor (*Chakravatri*, or the "consolidator" of the domain). During the rule of Shrenik (Bimbisar), mentioned in the Jain texts, Rajgrahi was capital of the empire. His son (Table II-2) Ajatshatru mentioned in the Buddhist texts moved the capital from Rajgrahi to Patligram (later to become Patliputr or modern Patana). The reason being Patliputr is at the cross roads of several navigable rivers, and therefore suited for collecting taxes. He had governors stationed in Ujjain (Avanti) about 1000 miles to the south-west.

Table II-2. Chronology of Magadh and Maurya Empires with Patliputr as the Capital

Reign BCE	*Ruler*	*Supported*
604-540	Shrenik (Bimbisar)	Mahaveer
560-490	Ajatshatru (Kunik)	Buddha
490-467	Udayi	Buddhism
467-458	Anuruddh	?
458-449	Munnd	?
449-410	SusuNag	?
410-324	Nand dynasty (4)	?
324-298	Chandragupt	Jin monks
298-273	Bindusar	Buddhism
273-232	Ashok	Buddhism
232-185	Kunal	Buddhism

Both Mahaveer and Buddh were born about 200 miles north of Patliputr, near the foothills of Himalay. It is not clear if the city-state of their parents came under the domain of the Magadh Empire. However, Shrenik and his wife Chelna were followers of Mahaveer and strong supporters of the tradition. On

the other hand, their son Ajatshatru (Kunik) was a follower of Buddh. The idea of religion, and certainly the idea of faith from birth or of the state religion or the dogma-based-practice, was alien in these parts at that time.

It is intriguing that about 300 years later the Patliputr region became inhospitable to both of these indigenous thoughts. Just as the European Colonial Powers used Machiavellian ways to exploit native people, the Ary of the Ganga Valley began to systematically harden the *Varn* system proposed by Manu (ca. 700 BC). Some of these ideas about personal and social conduct are found in the work of Vishnu Gupt (400 AD) who apparently compiled the practices from the period of Chanakkya Kautilya.

Chandragupt Maurya (-324c) overthrew the Magadh Empire with the help of Chanakkya Kautilya and the Chief Minister Shaktal of Magadh who also unhappy with the Nand emperor of the time. Both Chanakkya and Shaktal were Brahmins. Origins of Chandragupt, the founding Emperor of the Maurya Empire, are not known. It is believed that Chandragupt later became a Jain monk. The next two Maurya emperors, the son and grandson of Chandragupt, adopted Budhdist thought. End of this golden age in the history of India came with a military tide from the West and also from reemergence of the Brahminical thought. The chain of events leading up to the golden age and its demise are outlined in Essay II-6.

Law of Social Cycles: R. R. Sarkar has revived the ancient idea of social cycles to understand the chaos of history. Basically such cycles follow the order of intellectual development, grandeur of acquisitions (formation of empires), the general well being of most of the social groups, and ultimately the decay of the empire. See also *The Rise and Fall of Empires* by Paul Kennedy (1987).

II-6. Clash of World-Views

Zen is like a man hanging in a tree by his teeth over a precipice. His hands grasp no branch, his feet rest on no limb, and under the tree another person asks: "Why did Bodhidharma come to China from India?" If the man in the tree does not answer, he fails; and if he does answer, he falls and looses his life.

-Paul Reps in *Zen Flesh, Zen Bones*

About 4000 years ago parallel to the developments along the Ganga Valley, a different world-view had evolved along the Euphrates and Nile rivers. Its focus was centralized power. The idea of omnipotent was backed up by the priests who concocted omniscience. The reverse also came into play as the herders and horseman justified their conquests in the name of omniscience. Around 700 BCE the horsemen who called themselves *Ary* (Aryan in English) introduced the horse to the Ganga Valley region, and claimed the territory wherever the horse went. The Vedic thought with distinct ancient Persian and Middle-Eastern roots moved east of Sindhu valley over several centuries. Relatively small in numbers, these people with lighter skin celebrated horse as a divine symbol of the superiority of their class and knowledge. Their wars and violence against native populations is possibly the subject of Mahabharat and Ramayan Epics. They asserted the hand of 'unknowable supreme' in the workings of the world, including the affairs of Man. In their onslaught they took up many of the local traditions and myths. Their practices and beliefs solidified into dogma around 700 BCE as codified in Jamini Sutr and Manu Smrti which were used centuries later to establish the system of birth based castes.

Vedic idea of knowledge is as the grace from omniscience that is validated by omnipotence. It collided with the tradition of Ganaga valley where Arihants has surmised that the world is intelligible to humans through human efforts. Mahaveer refuted the ideas of grace and judgment. He opposed the caste system, and appealed for compassion towards all living beings. For his stand against rituals and violence Mahaveer is to this day credited as a reformer of the Hindu practices and thought. However both sides stand turf even to this day: **One with the belief that there is no reason to believe in omniscience, and the other with the conviction that there is no evidence against omniscience**. A generally peaceful coexistence has prevailed. It is worth examining the roots of the conflict and the solutions that evolved. At the dawn of 21st Century, the deeper issues are still very much relevant in the international context. It goes right to the crux of the beliefs and practices through which perceptions and knowledge interact and guide rational behavior and conduct to improve human condition.

The criteria-based secular approach towards human knowledge is now universally recognized. Yet it is not as widely practiced. It continues to be at odds with ancient belief systems thrust on the mass-psyche. For example, in line with the belief system of Ary, the dominant belief systems of the Judeo-Christian-Islamic traditions also assert the hand of 'unknowable supreme' in each and every-thing including the affairs of Man. The same sentiment is rooted in the Platonic universals. Such idealizations, not necessarily rooted in practice, have permeated into most, if not all, of the offshoots of the Western Philosophy and thought where ideas appear to have independent validity without being practiced.

Insight: Mathematics adheres to the consistency of the initial axioms and the derived relations have internal consistency with the axioms. Such constructs are rational and conform to reality, but not necessarily real. Demonstrated consistency beyond the initial axioms always requires additional axioms and proof.
Insight: It is far too dangerous to implement random and untested thought. Ideas judged to be rational are all too often implemented ad hoc by those who do not follow the same dictates. As a matter of fact Plato's Republic continues to be a favorite source of inspiration for many despots, autocrats and dictators whose whims subject humans to vagaries of wars. In terms of the futility of approach, the record of divine insights is not enviable.

II-7. On the Ashes of the Magadh Empire

Rationally selected means can destroy rational thought.

- Klemens Szaniawski

The Vedic culture of the Indo-Ary appeared in the Sindhu Valley about 1000 years after the demise of the Dravidian civilization in Mohanjodaro, Harappa and Kaliganga. The Indo-Aryan influences on the Vedic culture are attributable to the multiple influxes of Iranian, Ionian and other groups from the Middle East. In 518 BCE Darius annexed the Western Sindhu valley as the 20th colony of the Iranians. Under the name of "five rivers" (*punj-ab*) it provided more "tributes" (taxes) than any other Iranian colony.

Flux of people to the Ganga Valley was probably facilitated by the down stream flow of the rivers towards Varanasi and Patliputr. Much of the way these rivers remain navigable in both directions for 9 months a year. The only other means of transport included elephants and ox-carts. The migrants introduced horse which provided the advantage of speed and maneuverability. It is also likely that the immigrants brought some food crops, and possibly new diseases against which the local populations and crops did not have resistance. There are indications that the region was periodically devastated by epidemics during the period of Aryan migration. All together such factors probably worked to the advantage of the immigrants.

As this region became center for trade and learning, its reputation attracted more invaders from the West. After the murder of his father, at the age of 20 Alexander came to power in Macedonia. Possibly as a distraction against the internal strife in his kingdom Alexander moved his armies East and South. With

brute force, cunning, deceit, and propaganda he marched through the crumbling Persian Empire. In 326 BCE Alexander came to the South-Eastern edge of the Persian Empire. His army refused to cross the Western-most branch, called Sindhu (Indus), of the five rivers of the Punjab province of the Sindhu Valley. On their return the expedition disintegrated before reaching home. While trying to find a sea route for the way back home, the Greek army moved south along the Western bank of Sindhu. In the delta region on the Arabian Sea they encountered new diseases. On the way back Alexander died (-323c) in Babylon with thwarted dreams.

In 315 BCE Chandragupt defeated Seleucus Nicator, a Greek general who had come to Punjab and Afghanistan region in the wake of the retreat of Alexander. Sindhu Valley, and the region to the West up to Herat, Kandhar (Ganddhar) and Kabul were annexed into the Maurya Empire. As the war settlement Seleucus married off his daughter to Chandragupt. In return Seleucus received a suitable place in the Patliputr court. For the first time both the Ganga Valley and the Sindhu valley were under the same ruler. Chadragupt ruled from Patlipur. His Chief Minister, Chanakkya Kautilya, advised: "*With increasing strength make war; when you have a clear advantage over a neighbor, march against him; do not disturb the customs of a newly conquered people*."

Such a large territory (Figure II-2) could only be ruled through an extensive bureaucracy as is apparent from the edicts and other accounts. Even from the most modern standards it was clearly one of the most enlightened systems of governance. It was possibly based on the model of the city-states that had evolved in the region during the preceding 1000 years. In all likelihood, the city-states remained relatively autonomous as the tax-paying districts within the Empire. The operating motto for the

subsistence of the emperor and Empire is quoted in *Arthshastr* (which is ascribed to Chanakkya Kautilya but in its present form it was compiled some 500 years later by Vishnugupt):

In the happiness of his subjects lies a king's happiness,
In the welfare of his subjects, his welfare,
A king's good is not that which pleases him,
But that which pleases his subject.

After 24 years of rule, the mighty Emperor abdicated power to his son in 298 BCE. As a historical footnote it is noteworthy that for the preceding 300 years the throne at Patliputr had changed hands through patricide. It is not clear why Chandragupt Maurya retired to Shravanbelgola that lay well beyond the border of his own Empire. It is also intriguing that about 40 years earlier Chadrgupti, the young ruler of Ujjain had become follower of Bhadrbahu (Essay II-9). Could it be that Chadrgupti of Ujjain is same person as Chandragupt Maurya? It is not impossible. A few years after the death of Bhadrbahu, around 328 BCE Chanakkya and Chandragupt made alliance to overthrow of Magadh Empire two years later.

After Chandragupt the Maurya Empire flourished with peace and quite under the leadership of Bindusar. Ashok, the grandson of Chandragupt, went on to consolidate the empire on the Southeastern edge. The Kaling region was ruled by the Kharvel dynasty. Besides its independence, and prosperity from the sea-trade, it was also hospitable to monks who had fled earlier from the Ganga Valley. The slaughter at the battle of Kaling left Ashok overwhelmed. According to the rock-inscription at the battle site (see Essay II-5), Ashok immediately proceeded to amend his ways by stopping slaughter of animals for the royal kitchen. Following the "righteous way" he brought the golden age to his people with an enlightened model of governance.

Encouraged by this success Buddhism also began to offer a non-divine legitimacy to kings and their actions. One of the noblest utterances of Ashok from an edict, paraphrased by Jawaharlal Nehru, speaks highly of the political aspirations, if not the climate, of the era:

"*All sects deserve reverence for one reason or another. By thus acting a man exalts his own sect and at the same time does service to the sects of other people.*"

In spite of such exalted views, a pernicious element had set in the statecraft. Under the influence of Chanakkya the system was backed with a powerful military and an extensive network of spies. Its aphorism was: "*government is the science of punishment*." In its cold blooded cunning and deceit it matches the Machiavellian approach of the Italian bureaucrat born 1700 years later. The system used ruthless organizations. According to A. L. Basham (*The Wonder that was India*, 1963) kinds of spies included: "*Brahmans unable to make a living by their learning, merchants fallen on evil days, barbers, astrologers, humble servitors, prostitutes, peasant, and orphans raised to become fortune tellers and holy men*." Environment of secrecy also set the groundwork for a total destruction of the 2500-year old Ganga Valley civilization. What flourished under the protection of city-states could not withstand the transition to the glory days of the Maurya Empire. As the monks moved out, the Empire also disintegrated within a few decades never to recover again.

Bounded rationality

We all make decisions and operate within limits. Possibly driven by the external ideals of power and good, the Maurya Empire extended limits of the conception of the power in the Ganga Valley. The drive was fueled by the shrewd and cunning dominated by another brand of "bounded rationality" epitomized by The *Arthshastr* of Kautilya (ca -315 c). It matches the confidential advice (ca 1480 CE) by a bureaucrat Machiavelli for the benefit of his masters the Medici of Italy. It was published under the title *The Prince* after his death in 1532. Such ideas have been brought into the analysis of economic behaviors as "bounded rationality" (Simon, 1982). All such behaviors cater to instincts of self-interest at some cost to others. Although survival under duress may require such means, they are used all too often for the so called 'greater good.' I believe the rise and fall of the Maurya Empire, and possibly of most Empires, are driven by such inconsistent and contradictory rationalizations designed to further more nefarious 'cause.'

Insight: A fundamental property of the stable system is called Nash equilibrium. It is a strategy profile in which no player can strictly benefit from unilaterally changing its strategy while all other players stay fixed. Crux of the Machiavellian and Chanakkya strategies is to eliminate the dominant counter strategy, and then benefit from the chaos. It is clearly short-sighted. Many counterbalancing strategies are required to support a complex system. Invariably, it is nearly impossible to identify and eliminate all the counterbalancing strategies without destroying the system itself.

Thoughts about the uses of the past

* Dangerous things are those that we do not know, and that ain't so (Mark Twain).

* He who stops is lost (An ancient Egyptian Italian saying).

* Things that don't get better get worse (Ellen Sue Stern)

* Pick your fights carefully. Do not try to defend indefensible.

* Wish carefully. It might come true and you may have to live with the consequences.

* The major problems in the world are the result of differences between the way nature works and the way people think (Gregory Bateson).

* There is absolutely no inevitability as long as there is a willingness to contemplate what is happening (Marshall McLuhan)

* Everyman takes the limits of his own field of vision for the limits of the world (Arthur Schopenheuer).

* A civilization progresses from Agriculture to paradox (E. M. Cioran)

* Dare to be naive (Buckminster Fuller).

* Great Ideas in world come into the world as gently as doves (Albert Camus)

II-8. The Tradition of Austere Monks

If a man write a better book, preach a better sermon, or make a better mousetrap than his neighbor, though he build his house in the woods, the world will make a beaten path to his door.

-Ralf Waldo Emerson

Laymen learn to cultivate and contribute to the meaning of shared knowledge through practice. Continuity of a tradition is based not only on teacher-student transfer of ideas, but also on the user feedback. School of thought develops through training of cultivated men to carry out collective search, scrutiny, and continuing evaluation. Beyond that if you want to do something significant, it helps to be relatively free of the burden of survival needs and slightly under-employed.

The Ary claimed that their book of knowledge the Ved is from the non-human sources. It probably meant that it is not a work of a single person. Its hymns celebrate the life experiences of wandering herdsman. With the rise of the Ary influence in the Ganga Valley, the native ideas from the people without book or "book-less" (*nigganth*) began to challenge the authority of Ved. Both Mahaveer (599-527 BCE) and Buddh (550-480 BCE) took a stand against the Vedic practices and beliefs. By 557 BCE Mahaveer was recognized as the leader of the group of jin-kalp (those who follow the code of conduct of Jin) monks traceable to the 23rd Jin Parshvnath (b. 923 BCE). Mahaveer became leader of the tradition of the book-less knowledge of, for, and by humans. As is clear from his reasoned discourses he was a forceful and articulate spokesman of this tradition. Mahaveer attracted many disciples, including some followers of Ved.

Buddh was born some 50 years later. His message is also about knowledge of, for, and by humans. He developed a following among the people of North and East of Patliputr. The monks of both the groups were called the *shraman sthavir* or monks who strive for knowledge *by mild speech paying all those gifts of heart* for their survival. Arrian writes that when Alexander asked some of these monks why they were paying so little attention to the great conqueror, their anti-imperial egalitarian reply was:

King Alexander, every man can possess only so much of the earth's surface as this we are standing on. You are but human like the rest of us, save that you are always busy, and up to no good, travelling so many miles from your home, a nuisance to yourself and to others .. you will soon be dead, and then will own just as much of the earth as will suffice to bury you.

Intellectual legacy. The language used by Mahaveer, and also most of ancient written material, of this tradition is in the native language (natural = *Prakrit* or *Prakrat*) of the common people of that period (Essay II-10). Reliance on the oral tradition was necessary because most people could not read and write. Also acceptable writing technologies were not available. Technology of an effective writing medium (such as paper) was not well developed (in China) until about 2200 years ago. Use of skin and parchment as a medium for writing was unacceptable to those who did not see any point in harming the living beings even for the knowledge. Buddhist monks used birch bark and bamboo splices from living trees for their writings in Pali, the local language of the Himalayan foot-hills. However it was frowned upon by the followers of Mahaveer because of the damage to the living trees.

Both traditions were open to all. Dependence of the monks on the lay public for their survival needs provided the testing ground for ideas with feedback and new inputs. This relationship is certainly not based on obligation, let alone on an implied sense of authority. A very strict and demanding code of behavior and scholarship also kept out the unwanted elements. Monks followed a very austere life-style. For much of his life after the age of 42 Mahaveer stayed without clothes and without personal possessions. It became the norm for others. None of the worldly advantages come from being a monk. The merit based basic training took 10 to 20 years. The tradition thrived on direct teacher to student relationship to assure quality. For daily food and shelter both depend on the society at large. Strict adherence to austerity also came in the way of royal patronage. But it also shielded them from fickleness, envy, and intrigue of the power.

What kept the tradition of Mahaveer viable in India? It is certainly remarkable that the tradition of Mahaveer survived in India, albeit through a viable numerical minority. Several facts stand out as the contributing factors.

1. The early founders left the organization not only at the mercy of the monks and nun, but also placed great emphasis on inputs from laity of both genders.

2. Lay people manage public places which also provide shelter and sustenance to monks, scholars, and pilgrims. Lay people exercise control, including the choice and permission to appoint the intellectual leader (*Acharya*), in all social ceremonies that are open to all. For a compilation of the key names see: http://www.jainuniverse.com/AcharyaTimeLog.html

3. A system of checks and balance promotes consensus and activism on social issues. Evangelism in any form is always frowned upon.

4. The monks did not have worldly needs and did not depend on individual favors which kept them away from social intrigues.

5. By adhering to high standards of scholarship and intellectual integrity, even in impassionate discourse between the scholars, the monks try to understand all sides of an argument.

6. The monks interfere little with the lives of layman. It gives freedom to try out alternatives and find ones own level of interaction with the group at large.

7. Monks are taken as model for a strict code of conduct. Beyond that neither the monks not laity is organized into a hierarchy like that of church or western religions with a central authority.

8. After dispersal of the original group from Patliputr, the scattered groups regained viability as they adopted to the local conditions in other parts of India.

9. *Itthivay* (Drashtivad in Sankstrit) is the deeper intellectual basis that provides a cohesive force for the tradition of Mahaveer.

*****

What is itthivay about?

Thrust of *itthivay* (the 12th Ang of Mahaveer (599-527) is perception that is how a living being perceives itself and how others perceive it. Two orthogonal approaches facilitate consistency by minimizing liabilities in behaviors (developed on this site):

A. *Nay* methods identify contradictions and inconsistencies to encourage consistency with reality.

B. *Achar* (consistent code of conduct) minimizes liabilities from subjective judgment and conflict of

interest. Jeevatthan provides a reality-based matrix of the properties for the criteria based evaluation of diversity of animate beings.

Table II- 2. Key dates Leading to Jeevatthan and fragmentation of *itthivay*, the Twelfth Ang (Table II-3).

599-515 BCE Gautam (607-515) and Saudharm (580-490) organized and developed the available knowledge in 12 parts for oral transmission by the original group (*Mool sangh*) in Patliputr.

400-300 BCE The orally transmitted knowledge is consolidated in the form of Gatha. It coincides with the decision of Bhadrbahu to disperse away from Patliputr in separate groups.

35 to 85 CE: Dharsen completed (ca. 37c) teaching Jeevatthan to Pushpdant and Bhutbali. During the next 50 years this and other work was organized as the Shatkhandagam (*shat*, six; *khand*, part, *agam*, prior knowledge): *Khand 1 (Jeevatthan)*: Pushpdant and Bhutbali completed. Later Bhutbali completed *Khand 2* (Khuddabandh), 3 (Band-swamitv), 4 (Vedna), and 5 (Vargana). Kashay-Pahud (Khand 6) came from Gundev and Brashabh.

100 to 1500 CE. Interpretations, notes and elaborations inspired from Shatkhandagam: Parikarm on Khand 1, 2 and 3) by Kundkund (ca. 150 CE); Samantbhadr (ca 200 CE) on Khand 1-5; Shamkund (ca. 300 CE) on Khand 1-5;

The Moodbidri Pandulipis (ca. 1060 CE) include:

- Shatkhandagam and its Dhavla *tika* (Veersen 827 CE).
- Kahsay Prabhat, Kashy Pahud, and its Jai Dhavla *tika*
- Mahabandh and its MahaDhavla *tika*

Table II-3. Gautam and Saudharm Organize the Twelve Ang

[According to Aklank (Akalank, Akalanka) in Tatvarth Rajvartik (ca 700 CE)]

1. *Achar:* Code of conduct for behavior.
2. *Sutrkrat:* Knowledge, reverence and humility.
3. *Sthan*: Description of scriptural topics.
4. *Samvay*: Matter, space, time and mode of entities.
5. *Vyakhya-pragyapti*: Questions and answers about beings.
6. *Dharm-katha*: Narrative and didactic tales and parables.
7. *Upasak-dasha:* Topics for the concerned follower.
8. *Antakradasa*: Biographies of ten monks from the order.
9. *Anuttar-aupadika dasha*: Biographies of ten later monks.
10. *Prasn-vyakaran*: Analysis of points and counter-points in the contemporary and ancient beliefs.
11. *Vipak-pad:* Actions and Consequences.
12. ***Itthivay*** (*ithtivad, drishtivad*): Nay methods from 2, 4, 5, 10 and 11 are reexamined to elaborate the doubt (Syad) and multiple (Anekant) characteristics of concern for validation. As we know it now crux of the reality based-perception is in Shatkhandagam.

*

The work after Mahaveer is organized in twelve ***Upang***:

1. *Aupapatika*: Account of visit of a king with Mahaveer
2. *Rajaprasniya*: Account of conversion of king Pardesi by Kesi
3. *Jeevabhigam*: geography (of flora and fauna)
4. *Pragyapana*: Forms and characteristics of animate beings
5. *Suryaprgyapti*: Description of Sun
6. *Jambbu-dveep prgyapti*: Geography of Jammbudveep (earth)
7. *Chandra pragyapti*: Description of Moon
8. *Nirayavali*
9. *Kalpvatamshikha*: Battle of Kunik with his father Chetak

10, 11. *Pushpiah* and its *chulika* (appendix)

12. *Vrashnidash*: Conversion of Vrashni dynasty by Arishtnemi (ca 1200 BCE).

The currently available versions of the first 11(*puvv*) are in the form of *kosh* or compendium, where continuity of thought is lost. According to the tradition while the first 11 Ang are learnt, as the part of the twelfth Ang the ***kevali*** perception develops with ones own reasoning and practice. Bhadrbahu was the last ***kevali***. His disciple Sthulbhadr was not considered worthy possibly because he boasted (of his powers to scare his sisters).

Vishakhacharya and Sthulbhadr became leaders of geographically separated branches of the original group (ca. 330 BCE). Another 400 years later the schism formalized into the Digambar and Shvetambar sects. Even to this day the Digambar monks retain a strict code. A somewhat relaxed code for the possessions permitted the Shvetambar monks to preserve parts of the tradition as the written works. The currently available Agam material from the Shvetambar tradition was collected, compiled and organized by the Council at Vallabhi (ca. 5th century AD). The content and style attests to its ancient origins. From these reorganized works one can not be sure if they are complete. Also without suitable context it is not possible to reconstruct continuity of the content of thought for reasoning.

There less than 100 original works of the Jain tradition. After 600 AD these have been interpreted and expanded in the form of Vachanika, Vyakhya, Tika, Bhasya and Mimansa. The last two are found only in the brahminical works. Although Tika are now written of the Jain works, however its use even for a critical review is not warranted. My guess-estimates of the dates for such

works are approximate to within two decades. The dates given here are reconstructed from those derived from the traditional Jain sources (Dhavla (800 CE), Indrnandi Shrutavtar (600 CE) and Ham Chandr (1000 CE), as well as the modern historical material from Buddhist and other sources. Jainendra Kosh is a remarkable repository of such information. In the writings of the tradition the periods are mentioned after the death of Mahaveer in terms of the periods of leadership. Much of the earlier confusion about the dates came from the fact that Mahaveer and Buddh were thought to be the same person.

Many of the ancient works of the Jain tradition are available gratis on internet:

http://www.jaingranths.com/JainGranths.asp
http://www.jaina.org/educationcommittee/education_material/J05_Jain_EBooks_SuvidhiSagarji/

The first site has a user-friendly interface, whereas it is much easier to read or download the works from the second site.

II-9. Who Was Bhadrabahu I?

If you ask unconscious to give you information in your dreams it will oblige you. It is really amazing how the unconscious longs for ways to get in touch with us.

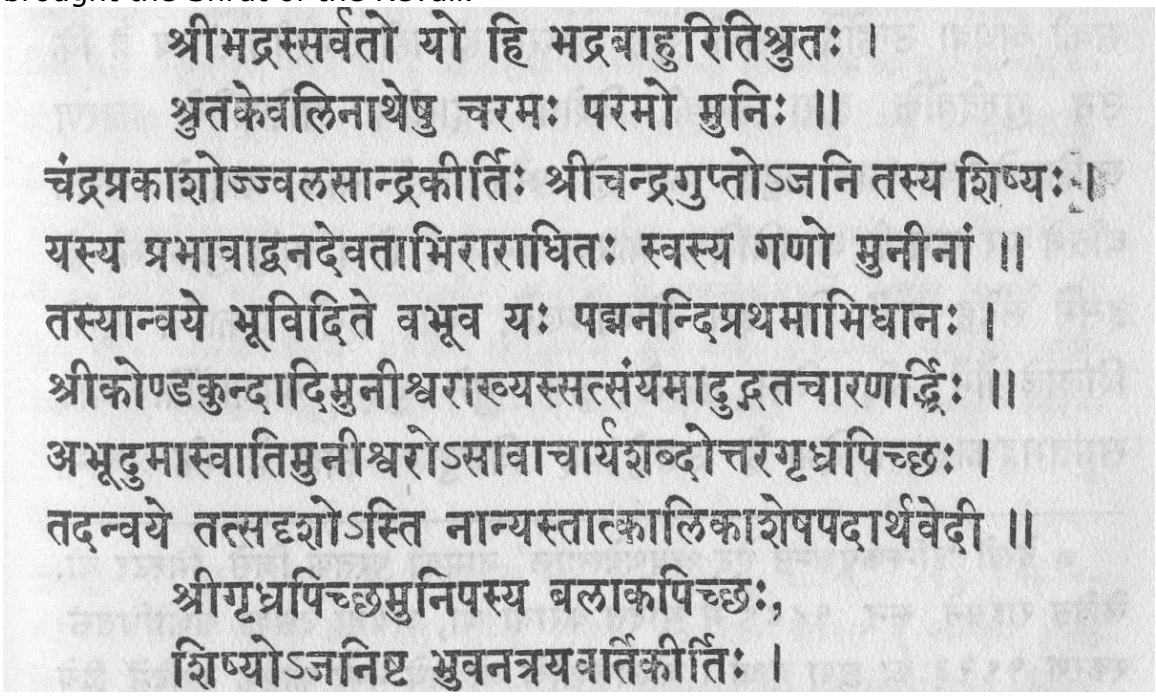
- S. Grafton

Bhadrbahu or Bhadrabahu (395-329 BCE) was the last shurtkevali and the eighth Ganadhar of the group in Pataliputr. Foot prints of Bhadrbahu are carved out in cave on Chandragiri hill in Shravanbelgola. The oldest temple on the hill is called Chandragupta basadi. Thirty one inscriptions on the hill refer to the association of Bhadrbahu and Chandragupta (Maurya?). A 6th century A. D inscription reads as:

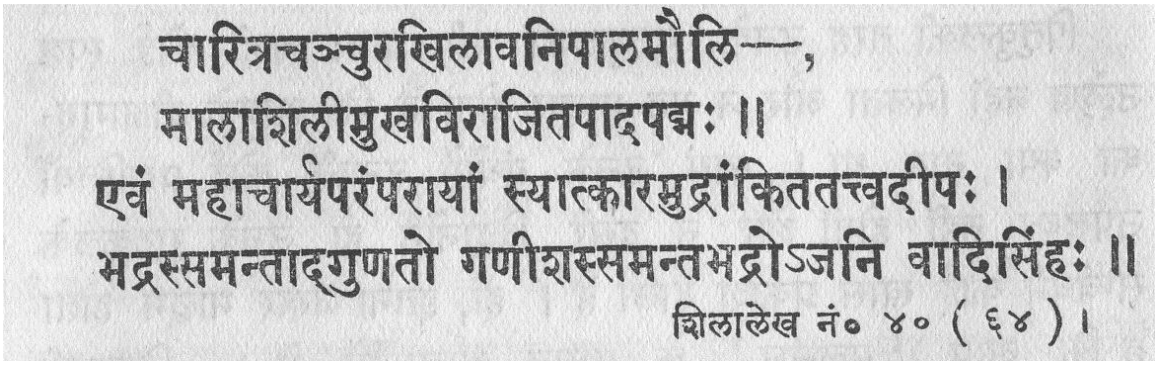
Success, be it well. Victory has been achieved by the venerable Vardhaman, the establisher of the holy faith and the embodiment of the nectar of happiness resulting from the perfection attained, who has acquired supreme honor in the world by his inconceivable greatness and has attained the great position of an Arhat by the abundance of his religious merit which procured for him the name of Tirthankara... Now indeed, after the sun of Mahavira... had set, Bhadrabahuswami, of a lineage rendered illustrious by a succession of greatmen who came in regular descent from the venerable supreme rishi Gautam Ganadhar, his immediate disciple Loharya, Jambu, Vishnudev, Aparajit, Govardhan, Bhadrbahu, Visakha, Proshthil, Krittikarya, Jayanam, Siddharth, Dhritishen, Budhil, and other teachers, -who was acquainted with the true nature of the eight-fold great omens and a seer of the past, present and future, having learnt from an omen and foretold in Ujjayani a calamity lasting for a period of twelve years. The entire sangh set out from the North to the South and reached by degrees a country counting many hundreds of villages and filled with happy people, wealth, gold, grain and herds of cows, buffaloes, goats and sheep...

Then separating himself from the Sangha, an acharya Prabhachandra by name, perceiving that but little time remained for him to live and desiring to achieve samadhi, the goal of penance associated with right conduct, on this high-peaked associated with right conduct, on this high-peaked mountain-which forms an ornament to the earth and bears the name Katavpra...bade farewell with the herds of boars, pathers, tigers...dismissed the sangha in its entirety, and in the company of a single disciple, mortifying his body on the wide expanse of cold rocks accomplished samadhi...And in course of time seven hundred rishis similarly accomplished samadhi...Victorious be the doctrine of Jina."

Text of another stone inscription in Shravanbelgola mentions that Samantbhadr (See Nay Volume III on this site) was the last in the tradition of Bhadrabahu who brought the Shrut of the Kevali.



श्रीभद्रस्सर्वतो यो हि भद्रबाहुरितिश्रुतः ।
श्रुतकेवलिनाथेषु चरमः परमो मुनिः ॥
चंद्रप्रकाशोज्ज्वलसान्द्रकीर्तिः श्रीचन्द्रगुप्तोऽजनि तस्य शिष्यः ।
यस्य प्रभावाद्वनदेवताभिराराधितः स्वस्य गणो मुनीनां ॥
तस्यान्वये भूविदिते बभूव यः पद्मनन्दिप्रथमाभिधानः ।
श्रीकोण्डकुन्दादिमुनीश्वराख्यस्सत्संयमादुद्गतचारणार्द्धिः ॥
अभूदुमास्वातिमुनीश्वरोऽसावाचार्यशब्दोत्तरगृध्रपिच्छः ।
तदन्वये तत्सदृशोऽस्ति नान्यस्तात्कालिकाशेषपदार्थवेदी ॥
श्रीगृध्रपिच्छमुनिपस्य बलाकपिच्छः,
शिष्योऽजनिष्ट भुवनत्रयवर्तिकीर्तिः ।



चारित्रचञ्चुरखिलावनिपालमौलि—,
मालाशिलीमुखविराजितपादपद्मः ॥
एवं महाचार्यपरंपरायां स्यात्कारमुद्रांकिततत्त्वदीपः ।
भद्रस्समन्ताद्गुणतो गणीशस्समन्तभद्रोऽजनि वादिसिंहः ॥
शिलालेख नं० ४० (६४) ।

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These and other works support the epigraphic evidence and provide details to reconstruct the role of Bhadrbahu during a critical period in the history of Jain thought. For example a likely purpose of the inscription emerges by introducing a paragraph break where the second paragraph refers to the origin of the beginning of the Sallekhana Samadhi tradition for death on Chandrgiri (Settar, 1986).

Shrutkevali Badrabahu (ca. 395-329 BCE) was contemporary of Chanakkya and Chadragupt Maurya. Two other Bhadrbahu are also mentioned (ca. 30 BCE, and 450 CE) in Jain and other sources. Several written works assigned to Bhadrbahu are in all likelihood by Bhadrbahu III and other participants of the Vallabhi convention (ca 450 CE). They compiled (*Skandh*) the scattered material in the book form as the eleven Angs of the Shvetambar tradition. This is apparent from the style and content of the currently available Kalp Sutr part of Dasha-Shrut-Skandh (Chedd Sutr) and Bhadrbahu Samhita. Surya Pragyapti, possibly attributed Bhadrbahu II, is apparently not available now.

In this essay I reconstruct from the available information some key events from the life of Bhadrbahu. Mentions of Shrutkevali Bhadrbahu are found in Tilloypannati (Tiloypannati, Triloka Pragyapti) by Yatibrashabh (ca 300 CE), Kalp Sutr (ca. 450 CE), Brahat Katha Kosh by Harishen (ca. 900 CE), Parishishtaparvan by Hemchandra (ca 1050 CE), and the Bhadrbahu Charit written between ca. 1200 to 1600 CE by Ratn Nandi, Shree Chandra, Ramchadr Mumukchu, Raidhu, and Nemidatt. They all agree on key events. Around 350 CE Magadh was in political and economic turmoil, natural calamity and famine. First indication of the impending trouble came when a tax was instituted on the citizens of Patliputr who gave food to monks. As the Nand dynasty began to lose grip on the affairs of the Magadh Empire, the intellectual and political climate in Patliputr deteriorated.

While Bhadrbahu had gone to Napal, the sangh was concerned about its future in Magadh. On his return from Nepal Bhadrbahu asked the Sangh to move to Ujjain. Soon after arriving in Ujjain. He asked the group to go further south. On the way, Bhadrbahu in ill health separated from the Sangh in care of Chandragupt, the young king of Ujjain who had also joined the group. Vishakha as the 9th Ganadhar led the way to Punnata (South-Karnataka) where Shravanbelgola is now located. Apparently Chadragupta joined the group 30 years later with the *charan-chinh* (foot prints) of Bhadrbahu.

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Historical Bottle-neck: Snippets of historical and anecdotal evidence suggest that changes of lasting importance were occurring in North-Central India during 600 to 300 BCE. Bhadrbahu was the Gandhar in the midst of the turbulent times gripping Patliputr. After the death of Mahaveer in 527 BCE the tradition of secular search for ways to address worldly concerns was carried forward by Gandhar entrusted to mentor and guide monks and lay public. The first two Gandhar of the Original Group (Sangh), Gautam (607-515 BCE) and Sudharm (580-490 BCE) organized the available knowledge in twelve parts (ang) to facilitate oral transmission for future development (Table II-2 and II-3).

The group remained in Patliputr for the next 180 years. Bhadrbahu I became Eighth Gandhar around 360 BCE. As mentioned in *Titthogati* he was the last to have had a complete knowledge of the 12 Ang. *Bhadrbahu Charit* by Ratn Nandi mentions an anecdote about how Bhadrbahu was spotted as a potential leader. It is mentioned that during his travel Govardhan, the seventh Gandhar of Mool Sangh, saw a child playing on a street corner who was trying to balance 14 spherical balls on the top of each other. Note the allegory of balancing the 14 spheres in relation to the 14 *margana* (#A4) and also the 14 states of perception (*Gunasthan* in #A9-22).

Govardhan was so impressed with the play that he asked the child's parents for the custody of the child for further education. As promised to the parents, on completion of education the young man returned to parents. Now he was free to decide his own future. Bhadrbahu used the *syad* concepts in his first debate with the Vedantic scholars. However as a house holder he did not find meaning in his life. He returned to his teacher where he studied the Nay methods of reasoning. He later developed the Spatbhangi syllogism of Vacch Nay where independent evidence is required for affirmation as well negation of each assertion. Bhadrbahu I is also mentioned as an astronomer, mathematician and logician. His understanding of causality as a confluence of factors (*nimitt-gyan*) is apparent from his decision to move the Sangh from Patliputr before the region erupted in complete turmoil. His insight and reasoning is shown by the fact that instead of denying miracles as impossible, he characterized miracles *as events that may happen once in several eons* (see III-24).

With time Bhadrbahu I became the leader of the Original group (*Mool Sangh*) in Patliputr. During his tenure as the 8th Gandhar he made several decisions that had lasting impact. As a *nimitt-gyani* he said to have understood the role of confluence of causal factors. This is apparent in his decision to move the Sangh out of Patliputr and then to the South as the socio-political-economic situation began to deteriorate. Certainly this foresight at a crucial historical juncture averted destruction of the tradition while creating a viable basis for its long term preservation.

During his tenure Bhadrbahu traveled to Nepal and Kashmir in the North, possibly in preparation for a decision to move the Sangh away from Patliputr. Around 340 BCE Bhadrbahu with a group of 40,000 monks and layman in and

around Patliputr to Ujjain and farther south and west –possibly along the routes outlined in the map below. This move was in response to the difficulties associated with a tax instituted by the 9th Nand king on food to monks. It was a timely call for safe exodus and dispersal to distant parts of India. As the layman followed the monks they learnt to adapt to wide ranging social, cultural, economic and political conditions. Resulting variety and viability is still apparent in the widely distributed contemporatry Jain communities.

Around 340 BCE Bhadrbahu took residence in Ujjain. As the agriculture production in the countryside deteriorated due to draught, Bhadrbahu once again asked the group to move farther South. Soon thereafter the entire region came in the grips of a 12 year (ca. -335c) drought, famine and epidemic. The young king of Avanti (Ujjain as the capital) Chandragupti also moved with Bhadrbahu. Within a decade, the group of 1200 monks reached Shravanbelgola under the leadership of Vishakhacharya. He died on the katavapra or kalvappu hill now known as Chandrgiri.

What happened to Chandragupti? By some accounts Bhadrbahu never reached Shravanbelgola. On his way to South from Ujjain, seeing his end near, Bhadrbahu remained behind with Chandragupti at his side. Apparently Bhadrabahu died 12 years later. According to the Jain tradition aspiring monks must complete their prior commitments. Also it is not clear what happened to Chandragupti after the death of his preceptor. Here is a plausible scenario.

It is a historical fact that in 326 BCE the Nand dynasty collapsed and Chandragupt Maurya came to power in Patliputr. Origins of Chandragupt Maurya are not known. The term "Maurya" relates to the peacock-throne as the royal seat of the

Nand dynasty is known. It is said that around 330 BCE the Nand Court insulted Chanakkya Kautilya when he sat on the throne while waiting for the royal audience. After being insulted Chanakkya apparently decided to put a commoner on the throne. Chanakkya *discovered Chandragupt as a frustrated horseman with manners of a royal upbringing.* It is tempting to speculate that after the death of Bhadrbahu, Chandragupti had gone to Patliputr. After the overthrow of the Nand Dynasty Chanakkya was the Chief Minister of Emperor Chandragupt Maurya. Was he the Chandragupti of Ujjain?

Ancient accounts mention that after relinquishing his throne in 298 BCE Chandragupt Maurya came to Shravanbelgola with *the footprints of Bhadrbahu.* Note that Chandragupt and his descendents did not annex regions south of Siddhpura and Brahmgiri into the Maurya empire (Figure II-2).

Archaeologist T. V. G. Satri has mentioned: "*His (Bhadrbahu) southern migration from Bihar, along with the Mauryan king Chandragupta is recorded in Srisailamahatmyam of Mallikharjuna temple.*"
http://www.google.com/search?q=TVG+sastri+on+Bhadrabahu&ie=utf-8&oe=utf-8&aq=t&rls=org.mozilla:en-US:official&client=firefox-a)

This reference is apparently to one of the carvings on the boundary walls of the Srisailam complex of temples. This complex is located on the Southern bank of Krishna River on Shree Parvat (also called Nallmallai) in Kurnool district of Andhra Pradesh. Ruins of Chandragupta Nagar are about 20 kilometer away on the northern bank of Krishna. Apparently this town flourished 2000 years, with Krishna as the Southern border of the Maury Empire. Its strategic importance to later rulers has also encouraged large number of religious claims to the mountain

range [P. V. Parbrahm Shastri (2007 printing), *Shrisailam: Uska Itihas evam Sampraday*, published by Shrisailam Management]. Satvahans has apparently claimed this region second century CE. Shaivaites have dominated the region since sixth century. Claims and counter-claims have also encouraged extensive rebuilding and alterations of the ancient places of worship. More modern road and hydroelectric construction projects have virtually defaced the terrain and further contributed to the destruction of epigraphic evidence.

The Shri Parvat region had places of worship since early days. Braddha Mallikarjun temple is the oldest structure in the Sri Sailam complex of temples. This small (about 10x10x10 feet inside) structure is located just to the front left of the main temple. It houses a ling which appears to be part of a one foot high cylindrical pillar. On its side there is an image of a person with hands folded in meditation – that is reminiscent of *dhyan-mudra* seen in Jain and Buddhist sculptures. Although deteriorated this image becomes clearer on wet ling after *abhishekh*.

*

Living on date-palm. Challenges facing the monks are not trivial. In a modern ceremony for the monkhood my father gave the following advice to a prospective monk: "Being a monk is like living on a tree of palm date (*khajoor*). It has only one trunk extending up to 50 feet from ground with no branches. If you climb to the top you live between thorny leaves on soft fruits with hard seed. If you fall, there is nothing between you and the ground." Such challenges have always acted as deterrent against monks that are not suitably trained.

Balancing and conserving the progressive personal and social values is key to intellectual creativity for developing shared knowledge. An ex-president of a US university recently observed

"*I love the academy, the teaching profession, the interaction with students and colleagues, the opportunity to think deeply, and those rare instances when ragtag notions suddenly come together into an exciting theory. I relish the dialectic of academic life: discussing the material with critical-minded colleagues, and reconstructing the same ideas into a meaningful learning experience for all.*"

A group that remained behind under the leadership of Sthulbhadr had to leave Patliputr a decade later. It is said that Sthulbhadr was the likely successor of Bhadrbahu. Sthulbhadr had learnt the first 11 ang and was developing his own 12th ang while Bhadrbahu has gone to Nepal and Kashmir. Their relationship was strained. Bhadrbahu was put off by Sthulbhadr's *demonstration of power of his knowledge.* Bhadrbahu was already on the way to South when Sthulbhadra came to Ujjain. During the famine (ca 335 BCE) in Ujjain, over a matter of adopting *a relaxed code of conduct for survival*, three of Sthulbhadr's pupils killed him. It is said that for several generations in this line of monks the successors took power by force. Dispersal of this group to the West was the beginning of the schism as the Shvetamber sect because when they went out for food they covered their nudity with a white cloth.

The group that remained in Ujjain also ran into difficulties. Rather than visiting the royal court for favors, in this tradition the royalty visited the monks for insights. By 60 BCE most of the monks had moved away from Ujjain to the South and West. Although the reign of Vikramaditya I was tolerant of different views, the institution of the royal court was not conducive to the code of conduct of the Jain monks. Also the Kalidas, the literary courtier of Vikramaditya who wrote in Sanskrit, was openly

hostile to Prakrits, the native languages. In his plays Prakrit is spoken only by the lower-class.

There is evidence of migration of Jains to other regions of India. Migration to Orissa and farther south is found in inscriptions in Udaigiri where army of King Kharvel was decimated by Ashok the grandson of Chandragupt Maurya. Ashok quit warfare after seeing the aftermath of battle in Kaling. It is also said that Ashok took back some relics from Udaigiri to Patliputr. Monks in Udaigiri who depended on King Kharvel dispersed to Andhra Pradesh and farther south where they remained active for several centuries. Many caves used by Jain monks about 2000 years ago have been found as far south as Tanjor and Madurai, and possibly as far south as Kerala. Most area of India proved to be hospitable for the long term survival of the Jains. Of particular note is the Karntak, Rajasthan and Bundelkhand region for the Digambars, and Gujrat and North Maharashtra for the Shvetambars.

Migration route(s): The distance from Patliputr to Ujjain is well over 1000 kilometers to Southwest. Shravanbelgola is also about 1000 kilometer to the South from Ujjain. Probable migration routes suggested in the map are based on the considerations relevant to the period. In the absence of bridges, major roads, maps, viable currency, or places to stay, the primary means of transportation was on-foot or bullock-cart. The migration route was probably along the trade route that connected towns along the rivers and circumvented the hills and dry regions. The monks do not use boats, nor do they cross waters that are more than knee-deep. It is likely that the smaller groups moved and settled in different places over a longer period of time. As layman and

sympathizers settled along the way they facilitated the movement of monks. The tradition still continues.

Figure. Possible routes (green, blue and brown lines) from Pataliputr to Shravanbelgola are marked with the consideration of availability of water and less rugged terrain along the river bank. See text for additional discussion.

Within the geographic, demographic and technological constraints a likely migration route would be along the banks of interconnected rivers with suitable crossing points:

(a) Patliputr to Prayag (Allahabad) via Arrah, Sarnath, Varanasi, Kosumbi, along the southern bank of Ganga and Jamuna.

(b) From Chitrakoot along Jamuna to Hamirpur then to ucchkalp (modern Uchehara near Katani and other areas of Bundelkhand).

(c) Along Betwa to Bhopal and Ujjain via Orai, Moth, Devgarh, Basoda, Sanchi (Vidisha) and Kekanda.

(d) Crossing Chipra at Ujjain to Mahissati.
(e) Crossing Narmada at Siddhvarkot and Sanawat to Pattithana.
After crossing Tapti three routes are possible:
(i) The western route via Tagora and Nasik;
(ii) The central rote via Jalgaon, Ajanta, Ellora which requires crossing two branches of Godavari to reach Sholapur via Karanja, Hungo, Nanded and Gangakheri. It is possible to reach Shravanbelgola via Gulberga, Bijapur, Vijaynagar, Hospet, Bellery, Anantpurm, Tadpatri, Pavagiri, Madhugiri and Mysore. Jain temples suggesting lasting presence of the tradition are found as far as Kerala and Southern Tamilnadu.
(iii) An Eastern route via Akola, Amravati, Hyderabad can also lead to more mountainous routes to Andhra and then to other areas of South.

Additional work is needed to ascertain viability of this route. It is reconstructed from scattered stories, accounts, legends and anecdotes, as well as the locations of the current places of Jain pilgrimages. It appears that at least part of this route was in use since the ancient times. Apparently Gautam, the first Gandhar of Mahaveer, died (Ucchakalp) in Unchera (ahichhetra or Ahicherapur) between Pryag and Katni. It is about 400 miles South-west of Patliputr. Many of the modern centers of Jain culture and pilgrimage lie along this route to the south and west from Patliputr. The route taken by the Rama, the hero of the Ramayan epic, during his 14-year exile is said to be in the same general direction.

Away from whims of calamity and political upheaval. The move of a part of the Mool Sangh from Patliputr to Ujjain and then to Shravanbelgola was significant in a many ways. The dislocation must have occurred over a period of several decades, and

continued for centuries. The monks and layman scattered in different regions of India contributed to the long-term viability of the Jain thought and literary tradition, as well as the practices of agriculture, commerce and trade. This dispersal of people and skills is probably the single most critical factor in preserving the Jain tradition and its intellectual legacy - albeit in scattered forms. I believe that in preparation for the inevitable move away from Patliputr, during his early years, Bhadrbahu (and possibly Sthulbhadr) had initiated reorganization of the orally transmitted material. With Bhadrbahu at least a part of the 12th Ang material reached Shravanbelgola. This region of South India, away from the turmoil and invasions in the North, remained a major if not the only center of learning and scholarship for the next 2000 years.

Intellectual contributions of Bhadrbahu I. As one of the most influential logician of his time, Bhadrbahu understood that innovation is little more than a new combination of those images previously gathered and deposited in the memory. It is said that he used stars for navigation during his extensive travels. He interpreted concerns behind dreams and events. Instead of denying the possibility of miracles he said that such events occur so rarely that *they are not worth study, and can not be relied on for decision-making or to chart a course of actions*. Humility in the face of persistent great unknowns is the true philosophy.

Humility in the face of persistent great unknowns is the true philosophy: "The search for truth by the scientific method does not lead to complete certainty. Still less does it lead to complete uncertainty? Hence any logical system that allows of conclusions intermediate between certainty and uncertainty should interest scientists. The earliest such system known to me is the *Syadvad* system of the Jain philosopher Bhadrbahu.

- J. B. S. Haldane, 1957

It was a night of splitting universes. In one universe the New Age became older and its adherents departed, overwhelmed by doubt that much of what they thought they knew was now ... In another universe they reacted with righteousness and denial that anything said by the authors could be correct, and they fought to the last paradigm. In a third they argued that it was all interpretation and everyone is entitled to his opinion. In a fourth, a doctor pronounced a man dead and had the orderlies remove the body from the emergency room. As the orderlies carried him to the morgue, the man suddenly sat up on the stretcher and said, "But I'm not dead yet." "Who knows better," the orderlies replied, "you or the doctor?"

- Roth and Sudarshan, 1998.

People can't be telling lies? A remarkable intellectual contribution of Bhadrbahu is in *vacch-nay* (See Nay Section on this site). It is unlikely that Nirgranth (bookless) Shrut Kevali Bhadrbahu ever put anything in writing. Bhadrbahu is said to have had a "cultural shock" when it became apparent to him that the faith of Ary migrants to the Ganga Valley was not based on reality or validity, but driven by their own versions of faith-based wishful assumptions. Assuming that nobody knowingly denies reality, it is worth considering why individuals ignore facts of reality in favor of the object of their faith. If one believes that such denial is ignorance, Bhadrbahu suggested that it should be possible to deal with such augmented perceptions with evidence based reasoning. Careful thinking behind such insights underlies all great discoveries.

Issues underlying logical conundrum are often dismissed as trivial, semantics, ignorance or worse. Bhadrbahu refused to entertain the possibility that people would not tell truth knowingly (see III-13 and 14) because utterances to hide reality amount to wishful thinking (#A48-51 in Jeevatthan) to be exposed sooner or later. Through an analysis of the problem of disagreement in discourse Bhadrbahu set the foundations of Saptbhangi *vacch-nay*. It is concerned with how and why people say certain things, and agreement can be reached if recognizable contradictions and inconsistencies are resolved. Otherwise room for doubt (*syad*) remains if and when available evidence is not suitably considered.

With this insight Bhadrbahu set in motion the process that crystallized later as the full-fledged *Syad* and *Saptbhangi nay* (Essays III-22 to 26, and also the Nay works on this site). The outcome of this intellectual inquiry about wishful utterances (assertions) through which people deal with matters of faith, doubt and uncertainty turned out to be an absolutely critical intellectual defense against the claims of omniscience. The account below is reconstructed from scattered evidence leading to the formation of Saptbhangi as mentioned by Samantbhadr in Yuti-anushashan. The underlying syllogism as outlined below builds on the insight that independent evidence affirms a critical part of an assertion. Also lack of evidence does not necessarily negate an assertion.

Logical Conundrum. Formal methods of reasoning about an assertion on the basis of identified assumptions and independent evidence are useful for validation, and also to identify self-reference, inconsistency and contradiction with the available evidence. Bhadrbahu realized that improper use of reverse

implication to arrive at an inference often leads to logical conundrum. Consider the following two part logical argument from ca. 400 BCE between a Buddhist and a Vedantic Tarki (debater).

Q: Is the soul known in the sense of a real thing? (assertion A)

A: Yes (Ay).

Q: Is the soul known in the way a real thing is known? (assertion B)

A. No, that can not be said (Nn).

Conclusion. Ay is inconsistent with N- because:

(i) Ay implies Ny i.e. if the soul is known in the sense of a real thing, then one should also be able to say that soul is known in the way a real thing is known.

(ii) An implies Nn, i.e. if the soul is not known in the sense of a real thing, then one can say that the soul is not known in the way of a real thing.

(iii) Also Nn can not imply Ay.

(iv) Also Ay can not imply An.

Now consider the rejoinder:

Q. Is the soul not known in the sense a real thing is known? (assertion C)

A. No it is not (Cn).

Q. Is the soul not known in the way a real thing is not known? (assertion D)

A. No, that cannot be said (Dn).

Conclusion: Cn is inconsistent with Dn because:

(v) Thus Dn implies Cy, i.e. if soul is not known in the sense a real thing is known, one can also say that no soul is not known in the way a real thing is unknown.

(vi) Dn implies Dy, i.e. if soul is known in the sense of a real thing, it is not known in the way real thing is not known.

(vii) Similarly Dn is inconsistent with Dy

(viii) Similarly, Dy is inconsistent with Dn.

Clearly, something is not right because these two sets of apparently consistent assertions are not reconcilable with each. The conceptual breakthrough to resolve the impasse of this conundrum was developed by Bhadrbahu who suggested that independent evidence is required to affirm an assertion.

Evidence and description to guide reasoning for existence.

Awareness of the content and its behaviors is the basis of description. Logical descriptions in turn elicit awareness of the rule bound relations of the content with the context, and their behavior consequences. Assertion *it is (asti*) is about the content that exists as an entity with an identity. Its sense awareness provides a measure of its existence, and perceived characteristics and behaviors provide a basis for a description of the experience. An entity, real or abstract, that elicits awareness of defined characteristics behaviors is unlikely to be un-describable. On the other hand, narratives that do not elicit sense awareness about attributes and behavior consequences also make it un-describable (a-*vaktavya*) and un-interpretable, except possibly in self-referential assertions.

Table. Possible propositions with three assertions affirmed (+) or not-affirmed (-) by independent evidence

State/set	A (*exists*)	N (*does not exist*)	U (un-*describable*)
1	+	-	-
2	-	+	-
3	-	-	-
4	+	+	-
5	+	-	+

6	-	+	+
7	+	+	+
8	-	-	+

The Table above lists a set of eight (2^3) possible propositions from three assertions connected by AND: *it exists* (A), *it does not exist* (N), and *it is un-describable* (U). An assertion affirmed with independent evidence is marked with +, otherwise with -. None of the three assertions is affirmed in the (A-N-U-) proposition (third) and the other seven have 1, 2 or 3 affirmed assertions. Each of these propositions has a determinstic interpretation:

(1) May be (it can be said that) **it Exists** (*syad asti*): affirmed existence (A+) is consistent with not affirmed non-existence (N-), and it is not asserted as un-describable [A+N-U-].
(2) May be **it does not exist** (*syad nasti*): affirmed non-existence is consistent with not affirmed existence, and it is not asserted as un-describable [A-N+U-].
(3) May be it is **a state of "nothingness"** *(na syad asti, na nasti ch)*: lacks evidence to affirm existence and also for non-existence, and it is not asserted as un-describable [A-N-U-]. This proposition without an affirmed assertion is not included with the Saptbhangi set of the other seven with at least one affirmed assertion.
(4) May be **it is a contradiction** (*syad asti, nasti ch)*: both existence and non-existence are affirmed, and it is not asserted as un-describable: [A+N+U-]. This is considered contradiction (*byabhichar*) because it is not asserted as undescribable (compare with 7 (A+N+U+) below)

(5) May be **it exists but un-describable** (*syad asti, avaktavya ch*): existence is affirmed and non-existence is not affirmed, but it is asserted as un-describable [A+N-U+].
(6) May **be it does not exist and it is un-describable** (*syad nasti, avaktavya ch*): non-existence is affirmed and existence is not affirmed, but asserted as un-describable [A-N+U+].
(7) May be **it is a contradiction that is un-describable** (*syad asti, nasti, avaktavya ch*): both existence and non-existence are affirmed, but it is also asserted as un-describable [A+N+U+].
(8) May be **it is indeterminate** (*syad asti, nasti ch, avaktavya ch*): neither existence nor non-existence are affirmed, but it is asserted as un-describable (A-N-U+). It may be interpreted as false assertion of undescribability because there is no affirmed content.

This *Saptbhangi-vacch nay* template of propositions is a part of *Syad Nay(a)* that is often mis-characterized as *Jain Nyay(a)* or Jain logic (Jain, 1999). Note that the term *Nyay* is not found in *Nyay Sutr* of Gautam (ca. 550 BCE) as compiled later by Akchapad (ca. 100 CE). This seminal text builds on the role of evidence to support reasoning (*up-nay*) for decision (*nir-nay*). Apparently along the way evidence-based *Nay* methods of reasoning morphed into the *Naiyayik* belief, which after 400 CE gave way to *Nyay(a) Darshan* for judgment (*Nyay* in current usage) based on rules including the divine authority of scriptures.

Based on the interpretative translations of the ancient works of *Syad Nay* (Jain, 1999) my understanding is its formal beginnings go back to the oral tradition of Mahaveer (550 BCE). He suggested that during the consideration of what may exist it is also necessary to consider the unknown and indeterminate, and distinguish these from non-existents such as the contradictions that are not rooted in reality. Bhadrabahu (350 BCE) emphasized

that existence (*asti*, *it is*) is affirmed on the basis of independent evidence, and separate independent evidence is required to affirm an assertion to negate existence (*nasti, it is not*). Umaswami (ca 200 CE) noted: (प्रमाणनयैरधिगमः) *authority of reason is asserted by evidence.* By its nature evidence may affirm a certain aspect of existence of an entity as a particular, or as a member of a class, or a functional state, or its current state, or ways in which it has been addressed in the past. Therefore reasoning with affirmed assertions stays valid within such bounds of the evidence. Samantbhadra (ca. 300 CE) emphasized that each affirmed assertion is necessarily incomplete, which calls for addressing remaining doubt with suitable affirmed assertions such that *with each day some uncertainty goes away*. It is an open-ended analytical strategy to build certainty that proves and improves propositions by reducing remaining doubt. Hemchandra (ca. 1050 CE) in Annya Yog Vyavacched Dvatrinshika noted:

विना प्रमाणं परवन्न शून्यः

i.e. there is noting to reason unless assertions are supported by evidence. This interpretation of (A-N-U-) proposition was invoked by Akalanka (670 CE) to rebut Buddhist metaphysics of nothingness (*shoonyata*) *with no basis in reality is also without a truth value for reasoning*.

All together, this template provides a basis for representation (Satprarupana) in terms of a suitably worded proposition (word constructs). All propositions with affirmed assertions are meaningful for reasoning, even if it means to scrutinize claims of omniscience which if taken at the face value are often contradictory. Once identified, the only sound advice for proponents of such indeterminate, self-referential, and contradictory constructs is that *if they wish to entertain coexistence of*

such undescribable and unreal it should be done without uttering a thing about it!

Confusion in published literature. In each of the saptbhangi state the three assertions are connected via **and** (*ch*). Therefore these are states with their own content and context are not only logically different but also part of different realities as affirmed by evidence. Some contemporary scholars have interpreted the Saptbhangi outcomes as the seven (separate) states of the same reality. It is not logical because mpolar opposites of orthogonal states can not co-exist in the same time and space. Some scholars also entertain the saptbhangi states as the alternatives of the same content in changing contexts. This is beyond the scope of any syllogism designed to analyze the evidence-affirmed truth values of a particular sate of defined content and context. Deeper mathematical structure of the syad and saptbhangi states is developed in the Nay series on this site.

There is more to word constructs. Only state of reality emerges from the evidence-based affirmation of orthogonal assertions. Here validation of a compound assertion is carried out by direct positive evidence that affirm parts. Value of this empirical search lies in identifying contradictions and inconsistencies. It calls for additional assertions that can be affirmed by independent evidence (III-23). Negation by implications is not permitted.

One the subject of social discourse, the concern of Mahaveer about the nature of ignorance is developed as *vacch-nay* to identify the origins of what we know, what we do not know but exists, and what does not exist. Such concerns have prevented undue reliance on perceived "truths" that cannot be logically uttered and therefore verified. Is this good for anything? For the

future, it will be interesting to consider and explore whether the syad and saptbhangi syllogistic states somehow mimic or track the states of perceptions. For example, differing perceptions for the grasp of a complex situation with many plausible assertions would result with differing inputs or emphases on the facts. Of course, some of these may point to inconsistencies, but the reality-based inputs do not ever lead to contradiction of nothingness or absolutes.

To recapitulate, as for the word communication in the words of Berner Lee: *We have to be prepared to that the "absolute" truth we had been so comfortable with within one group is suddenly challenged when we meet another. Human communication scales up only if we can be tolerant of the differences while we work with partial understanding. We learn by crossing boundaries. It has to enable me to keep the frameworks I already have, and relate them to new ones. People will have to get used to viewing as communication rather than argument, the discussions and challenges that are a necessary part of this process of shared understanding. When we fail, we will have to figure out whether one framework or another is broken, or whether we just aren't smart enough yet to relate to them.*

II-10. Prakrit: The Languages of People

When you think of alphabets, that are asked to bear all the human investigations and all the aspirations and appetites that we have and that have ever existed in human history - it is terribly abstract.

- Alan Gurganus

It is an old and consistent tradition with us to be concerned with the words we use and their purification. Concepts are attached to structures of activities external to mind. All languages are full of images and metaphors whose origin is being lost together with the art from which they are created.

- Robert Openheimer

Arihant used the local languages of the Ganga Valley. Virtually all ancient literature related to this tradition is in **Prakrit**. The Buddhist works are in **Pali**. These languages of common people are called Prakrit (*prak* = from before or perpetuity, *krit* = created or represented). As a natural language of people the emphasis of Prakrits was on the content and dynamics of the thought process elicited by the experience of social existence. Many of the current linguistic dialects of India also trace their origins to the Prakrit languages, also derogatorily called *apabhransh* or corrupted. The ancient languages of South India have some affinity with Prakrit. However the Dravidian scripts are significantly different than the Mauryan Brahmi script that later evolved into the Nagari script used by the languages of North India [For the evolution of script and writing technologies see Singh, 1991; Sircar, 1965]. Renewed effort to understand surviving versions of Prakrit and its current artifacts is necessary to understand the linguistic heritage of India.

The social context of Sanskrit (*sans* = purified, *krit* = form) is reflected in its word roots. It is the alien attitude of the language purists that is also apparent in the Sanskrit plays where the Prakrit speaking natives are treated derogatorily. Such attitudes of language technicians and purists show up in virtually all cultures. They ignore the fact that evolution of language is a democratic process where all forces contribute innovations. Forces of colonization in transfer of thought through language inevitably corrupt the training, expectations and world-views of the novice and scholars alike to control thought and mind.

Purification of Vedic Sanskrit by Panini

Aryan herders were illiterate. Vedic Sanskrit, the language of their hymns and chants, possibly originated somewhere North and West of Indus Valley. The content of the orally transmitted Vedang came under scrutiny as it became clear that the meaning of the orally transmitted words was open to interpretation. Panini (ca 400 BCE) of Takshsila in the Gandhar (modern Kandhahar) valley of Afghanistan made the first serious attempt to codify, structure, and formalize the relations between the phonemes. These rules were used to establish the linguistically uniform Vedic texts written down some time after 100 BCE. Panini's rules for the formation and evolution of words apply to virtually all Indo European languages. However, etymology, phonemes and word usage is about the origins (roots, derivatives) of commonly used word and not about the precision of usage to communicate meaning and reasoning. There may be some truth to the assertion that Sanskrit is as rigorous as a computer language: Both are useful for transfer and storage of information. However Sanskrit certainly fails to communicate the syntax, meaning, reasoning, and thought. Perhaps these were not required in the context of the

Vedic words which are said to be of non-human origins and were considered to beyond human comprehension. In other words, the god-given poetic form did not need human intervention. Such attitudes made these works inaccessible to general public, and stifled communication of ideas to promote social stratification. It suited the ritual purposes where memorized scriptures impress the believers who are not supposed to understand the content anyway.

Panini's use of the word *Sanskrit* is traditionally interpreted as the purification of milk into yogurt (curd). In *Ashtadhyayi* he outlined about 4000 rules that show that 14 phonemes evolve into wide ranging words which are refined with use. Panini outlined 39 forms of conjugations to communicate meanings associated with words. Syntax is rarely identified in Sanskrit works. Another key insight of Panini is that distinguishable phonemes are created by the movement of tongue in conjunction with the vocal cord resonates by air pressure from abdomen (***a***), lung (*i*), lower respiratory apparatus (*ei*), upper respiratory apparatus (*o*, *ou*), and nasal cavity (*am*). Thus ***Aaauummmn*** uses and exercises all the resonating chambers. Modern speech therapists use sentences like "I ate an orange" to obtain insight into abnormalities of the respiratory apparatus, and also to exercise it.

Patanjali (ca. 300 BCE) in *Mahabhasya* elaborated the role of oral communication in elaboration of the intention, ideas, reasoning, thought and contemplation. It was also realized that codified rules for word communication are also needed for discourse. Through such efforts the form of the Sanskrit grammar that we know now evolved around 500 CE. However as a language oral Sanskrit was rarely used beyond the discourses and debates. Jain scholars adopted Sanskrit to communicate with

others. However for their own purposes they continued to use the local Prakrits that evolved over the centuries into many dialects and languages of India.

The poetic form of written Sanskrit text remained mired in multiple meanings communicated by phonetic roots and conjugations of words. Concerns of Sanskrit grammar also did not go beyond formal and overt structure of simple word associations. Even at its peak use (ca. 500 CE) Sanskrit writer paid little attention to clause, sentence, and paragraph structures. Such devices of context and syntax are required to communicate the meaning and content of complex thought. Without such nuances the Sanskrit works are often subject to endless interpretations. It may have rhetoric value, but it prevents reasoning to access and manipulate the thought. My experience is that even the best of the Sanskrit writing is that the interpretation is a matter for endless debates. Possibly for such reasons the Sanskrit works have emerged as vehicle to elaborate the imagined worlds, as in the Vedang and Upnishadic conceptions of the 'eternal' and 'omniscient' as the 'cause' of everything including the universe. Such limitations are also obvious in early (ca. 200 BCE) works like *Mahabharat*, *Gita*, *Ramayan* and other compilations (*samhita*) on medicine, rules of behaviors, and sexual etiquettes (*Kam-sutr*).

The later phase (after 400 CE) of Sanskrit literature is in the form of scholarly commentaries and elaborations (Bhasya) of the earlier ideas. The last phase (after 1000 CE) the Sanskrit literature is devotional. Another trend is towards rhetorical reaction to counteract competing ideas that may loosen their hold on the power. Not surprisingly, with such emphases a tradition of thought communication and scrutiny did not evolve. Sanskrit emerged as the language of choice for the memorized scriptures recited by the priestly class. For such purposes it matters little if

the content remained inaccessible to most of the population, including the priest. Their belief in preordained omniscience also discouraged tinkering with the content and thought. Recitations in Sanskrit are still used to dispense religious and ritualistic rules for a fee. It is in the tradition of the legitimization of the power and actions of kings by Vedic rituals are the subject of eulogies and inscriptions in Sanskrit. A close relationship of the proponents of Sanskrit with the centers of power is unmistakable.

Scholarly studies in alien languages suffer from the limitation that they do not go beyond prescribed limits. In this sense use of Sanskrit has much in common with the use of two other colonial languages in India, i.e. Persian and English: Proficiency in the official languages facilitated upward mobility. The East India Company developed a close relationship with the Brahmin Pandits as the court interpreters of the social practices. It also suited the purpose of British Raj that built on a similarity of the Indian caste structure with the British class structure.

*

A secondary role of Sanskrit is also apparent in the evolution of the Nagari script. At least until 300 BCE *Bramhi* script was used to write in the Prakrit languages. Brahmi is the precursor of the modern Nagari script. The first known Sanskrit written work is apparently an inscription in Brahmi from 150 CE by Rudradaman to repair a dam from 250 BCE. It is on the same rock that also contains a set of major stone inscriptions of Ashok (ca. 250 BCE) in Brahmi script. Over the next 1500 years Brahmi evolved into Nagari script. The current version has been in use since 1100 CE. Variations of the Nagari script, possibly of the non-Aryan origin, are now used by all but four of the major languages of South India.

Humorous is not necessarily comical.

Humorous goes to the heart of the observed whereas the comical touches the observer. As an example of Sanskrit humor consider two of the interpretations of the name Akchapad, the complier of Gautam's Nyay Sutr. According to the legend in Nyay-Kosh the sage was so deeply involved in contemplation that he fell into a well. After being rescued, God of learning mercifully provided him with a second pair of "eyes on feet" (the literal translation of the word akch-pad). It is an allegory for keeping arguments grounded in reality in the sense of *watch where you are going*. According to another legend Vyas, known for his Mahabharat and Vedant Sutr narratives vilified Nyay. However, he condescended by looking at it not through his natural eyes, but with a new pair of eyes on his feet. Another interpretation is given in the Nay section of this site.

Language rigidity comes at a cost. Conventions are necessary for effective communication. Yet rigid rules stifle creativity, humor, and all such explorations of mind that require flexibility to challenge thought boundaries. Innate playfulness is a key element of creativity. Redundancy is necessary to capture differing experiences of the narrator as well as the audience. In the end, it is the audience that moves forward the argument and turn words into practice. For such reasons the Jain monks have always preferred to communicate in the local languages and vernaculars.

The non-evolutionary and stoic elements built into Sanskrit usage stifle flow of ideas and humor. Subtleties of experience intrinsic in traditions are lost in artificial and alien languages and modes of expression. Redundancy and the context dependent meanings that explore the word boundaries and

concept space are critically important part of understanding the origins and significance of the thought content of vocalizations and utterances. It comes from the flexibility of the language usage in a given environment. Such limitations also follow in the use of Hindi. In fact, most of the regional languages of India with ancient Prakrit roots have a richer tradition of humor than Hindi.

Humor from Indian politicians

An ancient wisdom goes: *Do not get caught up in your own image*. Such modalities (irony, humor, satire) represent the universal as a clown or trickster. Voltaire articulated the theme: *God is playing comedian to people who are too afraid to laugh.* It is the way to cherish, yearn, and appreciate through the opposites of evil and good.

Indian politicians faced such an opposite in dealings with British stiff upper lip. Asked once what he thought of Western civilization, Mahatma Gandhi replied, "It would be a good idea." A few years later, upbraided for going to Buckingham Palace in London in his loincloth for an audience with the King-Emperor, Gandhi retorted, "His Majesty had on enough clothes for the both of us."

Contrary to perceptions otherwise, democracy has not flourished in any of the ex-British colonies. They said one thing and did something else

*

Reacting with undisguised culture shock on his discovery of America, after his trip in 1949 Jawaharlal Nehru said "One should never visit America for the first time."

*

Indira Gandhi once remarked: "In India, our private enterprise is usually more private than enterprising." In answer to

an American journalist in 1971 about why she had refused to meet with Pakistan's General Yahya Khan: "You cannot shake hands with a clenched fist."

*

V.K. Krishna Menon once retorted when complimented by a well-meaning Englishwoman on the quality of his English. "Of course my English is better than yours. You merely picked it up. I learned it."

*

Poet Sarojini Naidu made a classic comment about the Mahatma Gandhi's frugal lifestyle and his army of aides: "If only he knew how much it costs us to keep him in poverty."

Some things can not be translated without understanding.
Significance of one such word ***itthi*** is developed in the next chapter. A major problem for translation lies in the fact that the concepts are often rooted in the culture and usage. It is not uncommon to miss-the-point, don't-get-it, can't-say-it. The feeling is more intense for the pithy concepts that may be literally translated but not suitably articulated. These are necessary concerns to get in to the mind of the person who you are trying to understand. It is of particular interest here that many of the pithy words from Prakrit, as well as the present regional languages of all over the planet, have not found their equivalent in modern languages. To some extent English has the advantage of evolving in broader cultural, social and geographical contexts over the last 400 years.
Excellent resource: A comprehensive Prakrit-Hindi Dictionary *Paia-Sadda-Mahannavo* by Hargovind Das Sheth (1928)

Some Concept words from Prakrit that are Worth Dwelling Upon

Ahar: Ability to internalize (not just food) and make use of the nourishment.

Anugam: Analytical contemplation to understand the significance of organized and categorized reality.

Atm: Individual self. This Jain concept is not the same as the Hindu terms for *Atma* (soul) or *Brahm Atman* (the universal soul).

Avali: Turn, succession, cycle, period

Dhamm: or Dharm is roughly translated as the *truth for existence* or *attribute of extant reality*. It is not the teaching or the code of conduct in the sense of religion.

Itthi: Perception (II-11) that guides awareness of the sense inputs to respond in the context of prior experience.

Karm: Action (nut often mis-interpreted as fate).

Karman kay: The action-form; the form that remains as a result of actions (even in the absence of the physical form). ***Lessa*****:** Motive

Mrasha: Wishful, wistful (not necessarily a lie) See III-13.

Namo: Acknowledgement of the precedence

Nann: Ability to know (as in comprehend and cognize) the various types of inputs (#A115). It has been misinterpreted in Sanskrit as *gyan* (knowledge or information), which is also inconsistent with the interpretation of *itthi* as *gyan* (II-11).

Pajatta: Criteria for sustainable existence of a category

Sacch: Truthful utterance (not the logical truth)

Sat: Reality (necessarily a truth rooted in the represented reality)

Sia: Un-decidable based on the available information and criteria. This is the conceptual origin of Syad logic.

II-11. Itthi:

Sensory and Psychological Perception

Where the shallow sand is smooth, there is a path.
Where the flowing water is slow, there is no sand.

- An ancient saying.

The 12th Ang of Mahaveer is called ***itthivay***. ***Itthi*** characterizes the levels of dynamics inherent in the observer-observed interactions as in the fourteen Gunasthan (See Jeevatthan #9-22). The ancient Prakrit term *itthi* is best understood as the sensory and psychological perceptions that guide decisions. Even with best of intentions our actions are dominated by the augmented perceptions. Reasoning (*Nay*) articulates awareness and cognition of what is in front of eyes (*pratyakch*), as well as the feelings and experience (*parokch* or behind the eyes). Reason refines sense inputs and perceptions make up what is not cognized but is necessary for making a valid decision to respond to a new sense experience. The ***Kevali*** perception is consistent with all available evidence, and therefore likely to result in valid outcomes. On the other hand, the *mithya* perception contradicts available evidence, therefore resulting actions lead to inconsistent, incongruent, uncertain, and conflicted outcomes.

The range covered by the concept of *itthi* is much the same as that of word perception in current common usage in English. With its 300 year of usage the word perception also has associated baggage: It is varyingly used for momentary input, awareness, consciousness, and psychosomatic responses.

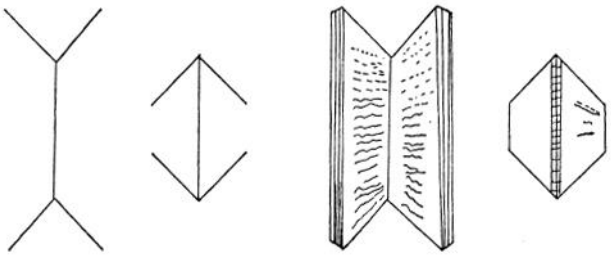


Figure. *Muller-Lyer illusion in visual perception: The vertical middle line in the first and third part appear (perceived) longer than in the second or the fourth. All the four lines are of the same length. The illusion is said to occur because the brain expands the more distant lines connected to the ends of the middle line.*

Word boundaries of Perception

Itthi in Jeevatthan (#A9-22) is interpreted as the perception that guides response. This is consistent with usage of *itthi* in Gatha Sapt-Sati (a compilation of Prakrit poetry, ca 200 CE) to express the tension (*khincha-tani*) of wishes and desires for thought. Itthi is not to be confused with the Pali word *iddhi* for woman (or on guard).

Perception is the overt (sensory) and covert (psychological) information processing underlying expectations, choices and decisions. It controls ability to extract information from sense inputs by modifying context and texture of the stimulus by adaptation. It comes into play in virtually all human activities where parts of the current experience are integrated with prior experience to project the future outcomes. Differing perceptions lead to differing individual responses to apparently the same inputs. Perceptual illusions are at work in driving, food, examination, lighting, movies, art, and choices made with insufficient information. Most cultures have tried to grasp the realm of perceptions including intuition and insights. However, *itthivay* places particular emphasis on the quality of perceptions

(*gunasthan*) as the basis for the validity of the observer-observed interaction. In Nay reasoning, information extracted by perception is validated by independent evidence.

The concept boundary of the Prakrit word *itthi* is not coterminous with any other word in Sanskrit or Hindi. After 400 CE itthi has been misinterpreted as *dristi* (vision, point of view), or *darshan* (philosophy, see III-23), or *gyan* (knowledge, understanding). The corrupted form ***dristi*** is often approximated as ocular (eye) vision, which may be used in a somewhat broader sense as vision, visual perception, or point of view. Prakrit has separate words for such abilities. These are rooted in *dansan* (#A4 and A131) adopted in Sanskrit as *darsan*. In The Dhavla, itthi is interpreted in the sense of "point of view." It is also misleading because it does not cover the range or touch the depth of the word perception. Such interpretations also distract from the dynamics and quality of the observer-observed interaction.

There is no Indo-European or Sanskrit root to *itthi* or any other word related to perception. Also as far as I know there is no suitable modern Hindi or Sanskrit equivalent for itthi. Itthi is also distinctly different than what is described by the ancient terms for mind (*man*), awareness (*chatna*), speculation (*iha*), investigation (*uha*), apparent (*avay*), and determinate (*avagrah*). In the more evolved form of Sanskrit by 700 CE there are words for perceptual images (*samjana*), clear image of the invisible (*avalolit*), cognition of the whole by induction (*prjana* or *pragya*), and the abstract subject under consideration (*pramey*).

In Jeevatthan there are distinct words and concepts for vision (*chakchu-dansan*) and knowledge (*nann*). The conceptual space of perception borders on but not identical to awareness (*abhas*), appearance (*pratiti*), consciousness (*chetna*), attention

(*upyog*), and cognition (*naan*). Ambivalence (*vikalp*) due to degrees of doubt and certainty without judgment is a part of perception.

Some modern scholars have interpreted *pratyakch* (a Sanskrit word, literally *in front of eyes* or evident) from Gautam's Nyay Sutr as perception. As developed in the Nay text in this classical text *pratyakch refers* to direct evidence based on sense data. It may be based on momentary sense experience (*rjusutr*) or more elaborate awareness of the experience. Evidence (*praman*) based on the sense-data (*pratyakh*) is not perception.

As an attribute of real time information processing, perception may be approximated as what is seen by the mind's-eye. The emphasis of *pratyakch* is on what comes in the form of sense-data from what is out there, and not on what is reconstructed behind the eye (*parokch*) in the mind. Not all observers are led by same physical evidence to a similar picture of the world even if their background *compass* is similar. Perceptions drive and are also driven by feeling, sentiment, impression, ideas, illusion and allusion. Perceptions influence choices, intuition, insights, and also the fact-based reasoning as in information, knowledge, vision, and philosophy. Through nurture it builds on the common sense of the culture and upbringing. It also appeals to the uncommon sense of putting it all together in a form that is usable for the future behaviors by bringing about a coherence of thoughts, words and actions. Such validated perceptions improve the quality of observer-observed interaction (Guanasthan) for successful behaviors (III-23).

Mirrors and Lens

Between 1410 and 1450 representation of perspective in Western European paintings suddenly became life-like. Although unlikely many believed it to be a sociological influence of "urbanization."

For decades it was intriguing that the humans and monkeys in many of these painting were left-handed. It is now clear that the artists outlined images projected with mirrors and lens. The devise, camera-obscura, was invented around the same period.

Augmented Perceptions. At each stage in our being, perceptions are central to processing of sensory experience as well as use and formulation of the shared knowledge in our interactions. Patterns populate semiconscious states with the alternatives, and *by meaning more, our lives yield more*. It is no longer a zero-sum game if we create value that lies in the potential. Such augmentation of perceptions is the thrust of qualitative difference between the ***Itthi*** states (#9-23) where perceptions crystallize into useful conception of the world and the self through actions.

Observer-observed interaction for action

Whatever is known has always seemed systematic, proven, applicable and evident to the knower. Every alien system of knowledge and thought has likewise seemed contradictory, unproven, inapplicable, fanciful or mystical. - *Fleck*.

* The purpose of interaction is to evaluate reality. Yet we rarely, if ever, experience reality in its entirety. We experience it in parts and that too augmented by a variety of influences. Concerns and decisions about the future require a concerted approach but without the benefit of complete knowledge. The starting point for actions is to realize what lies beyond and within our grasp. This holds for virtually all area of human endeavors, ranging from solving specific problems to addressing issues of human condition in the global context.

* Disorder of chaos and disarray characterize the observed states of doubt (Table I-1). Coherence and insight reduces doubt to facilitate rational choices for directed actions consistent with reality.

* *Each of us carries a range of mental perspectives, and every perspective is motivated by some interest or other. Such perspectives therefore tinge the perception of events. The discovery of causal laws is the essence of science, and therefore there can be no doubt that scientific men do right to look for them... The maxim that men of science should seek causal laws is as obvious as the maxim that mushroom-gatherers should seek mushroom. ...* (and then a few years later).. *The laws of causality are a relic of bygone age.* - Bertrand Russell.

A range of nuances of how we perceive the world is apparent in the quotes given in the box above. Such algorithms of experience take us from noise, through dealing with uncertainty and doubt, to cure. Certainly perception relates to the ability to know (*nann*, #A115-122). But it takes more than information to wander though the mental states that set in motion by its cognition. The first four states I to IV (A#9-12) of perception have little to do with a vision or point of view, and more to do with attitudes that adversely attenuate the inputs. Such perceptions do not permit differentiation of the contradictory, paradoxical, distorted and indifferent.

Deliberate restraints are necessary to evolve through such artifacts. One begins by filtering the chatter. It may be necessary to loose some information to peel off paradoxes and illusions to realize the limits and errors in the prior. Consistency is a rational beginning with the focus to rid of distractions, wishful, desires and notions to experience the relevant inputs that cohere for their

own felt quality. Cohesion of words and thought is prelude to actions useful to chart contours of reality.

Artifacts of Perception

In the end, logic mirrors in its structure the fundamental properties of mind (*A. Stern*). There is always something permanently chaotic in the human perception and experience, so are the worlds of our concern. Against this backdrop perceptions develop through active interactions. Impressions are passive artifacts of the expressed states of chatter that we constantly encounter and try to filter out. Then there is always a time lag between conception and implementation. Suitably augmented aptitude, fortitude, and rectitude improve the certitude and exactitude for valid inference. However, idealized attitudes and platitudes of Platonic ghosts, including the universals of spirits and essence, often hinder perception of reality. Consider the influences exercised for loosing or augmenting the sense of self by the mega-malls, sales pitches, and charlatans of all stripes.

All conclusions are fallible simply because the evidence (information, knowledge) is never complete. Good guesswork requires efficient use of all the available information by enabling variations of rashness and caution to be distinguished from variations in the amount of the available evidence. As Chu Hsi (ca. -400c) put it: *After long expenditure of strength, and then one day in a flash, everything becoming linked up.* Possibly, these are the stages of *Avlokiteshvar Bodhisatv* in the Buddhist tradition.

Perceptions shape the response

It is the nature of being to respond to inputs. The nature of response varies from simple and immediate Newtonian action-and-reaction, to the forces of gravity, to more elaborate feedback with concept development for long-range strategies.

Ability to perceive the need to respond is a key to rational behavior. It also includes self-imposed restraints and constraints. For an organism it is a device to identify the invariant across the admissible range of the realistic choices. Choices are critical because not all responses have the same consequences. Perceived consequences tend to have threshold beyond which perceptions seem to evolve in stages, albeit on a chaotic course.

Evolutionary rationale. The evolutionary rationale for the graded step-wise processing of sensory information probably lies in the degree of processing necessary for fear, flight, instinctive reactions, and other uses of the partially processed inputs. Rapid response in the face of perceived danger or opportunity is part of cunning and intelligence. It elicits appropriate level of response and learning from the feedback. It is efficient to process inputs relevant for making rapid choices. However it is not conducive to prepositional processing or presentation for the long term. Sooner or later with repeated experiences what seems to emerge is some sort directional processing with a strategy of efficient pruning of the tree of choices. Irrespective of the mechanism of how we do this, it is clear that templates of the past experiences often guide the choices even without significant processing of the new inputs.

Decision-making response. Decision-making is not necessarily the same as choosing. In this context a role for processing of perceptions can be assigned empirically. Perceptions act as a multilayered filter for the choices in relation to the inputs and desires. Processing inputs to identify and direct the choices is part of rational decision making. It charts the way for going from

possible to probable to preferable. Consilience for the experiential or felt quality is the subject of representation as well as the desires and expectations. An appreciation of such qualities of the underlying reality develops through stages. To explore the range humans represent signals, information, beliefs, and facts in ways that contribute towards actuality by trial and error. Tools of logic and theories can protect against dead-ends and the vicious circles.

Relevant states and stages. Perception is not knowledge or vision (Chapter A). States and stages of awareness, consciousness, and perception are mentioned in related contexts. Often the distinctions are muddled, and even intermingled with things beyond the content and context of the experience. Theology has misplaced such experiences to the realm of divine insights.

Unformulated conception and thought to define perceptions may be unique to humans only in the sense that we have the advantage of cultural and historical memories, artifacts and records of actions. Possibly for such reasons, unique human abilities are often attributed to realms of consciousness through which we register awareness, process information, and make representations to develop enduring shred knowledge. Such stages outlined by Robert Nozick (2001) for the development of consciousness have remarkable resonance to those outlined 2000 years earlier as the states of perception in Jeevatthan. An advantage of representation in gradations is to avoid passionate polemics that in the history of thought has engulfed issues related to the nature of reality, truth, justified true beliefs, and the mind-body problem. Incremental changes also encourage attempts to transcend the limitations and the ranges, as in the wisdom of "divide and rule."

Beyond the idea of behavior as the feedback of perception lies another interesting question: whether we can ever understand

anything other than our own conscious experience influenced by perceptions? In fact, humans do become aware of such potential when they choose to chart an ordered course for increasing reliability. It is based on the belief that usable shared knowledge of the external world has done more than all theistic constructs combined. Through the usable products of shared knowledge we can only hope to develop more rational perception of what we have not seen and experienced before, and discard beliefs in the non-existent. Shared life-experiences increase the awareness of the validity of the experience - at least for the purpose of representation through shared conventions. This is where the social conventions, such as those of language, arts, sciences, philosophy and economics begin to enrich the experiential bases of the perceptions of our lives to explore its significance. Thus being to becoming is an integral part of the need for independence and sustainability with a goal to realize what it means to be alive. Such a course of the evolution of perception, aided by shared knowledge, takes one out of the prison of solipsist and personal knowledge.

More to it

Perception interprets the message you send and also the message you receive. Discernible states of perception I to XVI follow from the assertion that the quality of the interaction is a measure of the underlying state of perception. Strategies behind the states of perception, zombie to sentient, are not only of divide and conquer but also of the qualitative change of rising expectations with incremental success. Of course, one assumes that the observed remains passive in the process, which may not always be the case. **Insight**. The quality of interaction and its outcome is critical for ascertaining the reliability of any search. This is because

interpretation of the observed (sense-data) requires consideration of contradictions, assumptions, goals, means, choices, coherence and all such factors that make up reason and rationality consistent with reality. This is how usable shared knowledge evolves from bits and pieces of information.

Insight. Words are play tools with multidimensional reality with self-imposed and external sense of boundary. As extensions of man, tools transform his strength, his gripping ability, and perceptions into specific actions.

Insight. Each of us carries a range of mental perspectives. Every perspective is motivated by interest, as in self-interest. It tinges the perception of self and its relationship to the happenings.

Insights. Perceptions develop from sensory inputs and processing to embrace the conceptual and perceptual space in relation to the external reality. As an inherent feed-back system perceptions prepare a being for coping with the reality and evolve into conceptual framework to guide behaviors.

Insight. Although perceptions guide thoughts, perception is neither view-point or point of view. Both the internal and external of the nature (brain, mind) and nurture (culture) propel us to attend, ignore, and learn from events.

Insight. Personal growth as well as the craft and lore (natural history) are about changing perceptions. Although not vision, like other inputs (of senses and mind, as well as the hallucinogenic or divine kind) do influence perceptions.

Insight. Perception is not knowledge or philosophy nor is it what mystics call as the *knowledge of heart* that transcends between *been there, being there, and be there.* There is nothing there, there.

This theme is further explored in the next four essays

II-12. What Is Behind the Numbers?

Simply eliminating the beginning can dispense with God, the Creator.

- Stephen Hawking

Dealing with numbers requires panache and penchant for systematic thought. What has now come to be known as the decimal ten-based and the place-based numbering system was fully evolved and in extensive use by 300 BCE in the Ganga Valley. For example, in an inscription after the slaughter at Kaling (261 BCE) by Ashok, the edict engraved in stone says (L. Schulberg, Historic India, Time-Life Books, New York):

"..... *150,000 persons were thence carried away captive, 100,000 were slain and many times that number died. ..... Today, if a hundredth or a thousandth part of those who suffered in Kaling were to be killed, or to die or be taken captive, it would be very grievous to His Sacred Majesty.*"

Besides the shock with the reality of war the passage clearly illustrates usage of a ten-based counting system to make the point. It also illustrates the concept manipulation of reality in terms of the 10-fold changes. Also the edict is for the general population who must have also been familiar with the numbering system.

The formalism for such systematic representation of quantities through distinct Brahmi symbols for 1 to 10 was initiated in the Ganga Valley sometimes around 3000 BCE. Possibly, it was an extension of the counting with ten fingers. All cultures had humans with ten fingeres. But it took a conceptual leap of abstraction to develop a ten-based system for counting. Singh (1991) has traced the evolution of modern number representation from Mauryan Brahmi after 300 BCE.

Conception of zero. A critical step in the number-based representation of the real world is zero or the absence of the reality that is to be represented. The concept of zero developed around 2000 BCE as a critical step for the evolution of the place-based system that uses 0 along side with the notations for 1 to 9. The system could not have evolved in one fell swoop. It requires considerable conceptual development of the ways to manipulate parts (numerals, digits, place based relationship) on the basis of defined criteria (*anugam*) as the convention that does not change.

The deeper conceptual basis of zero in the numbering system is that by itself zero has no value, and it has a place based value when placed in relation to other numerals 1 through 9 which have assigned values in the increment of 1. Large numbers are used in the *Brahmi* language inscriptions from around 1000 BCE. In Prakrit there are words for 1 to 9, 10, 100 and further with powers of 2 and 10 as well as the fractions and roots. The intermediate numbers are expressed with compound words. Establishment of the symbols for the numeral 0 to 9 was an important mile stone. Symbols for these numerals in Nagari as well in Arabic follow these conventions and script.

Ancient Mathematics in India. Several texts on astronomy and arithmetic from 500 CE are still available. These texts also mention the earlier texts that are not available now. The Dhavla (817 CE) has extensive mention of numbers and powers. The first textbook, for teaching algebra and geometry, is by Mahaveeracharya (written around 810 CE; first published in English in 1912. See Jain, L. 1963). Its opening passage reads:

Mathematics is useful in all worldly actions, including rituals and duties, such as sexual etiquettes, economics, music and dance, culinary arts, medicine, construction, literary work, logic, and grammar. It is also used for the astronomical and geographical measures.

Mathematics is also the basis for understanding the distribution and lifecycles of all inanimate and animate beings. In short, it is the basis on which one obtains a pearl from a shell.

It could not be said better. Clearly, the last reference is about realization of the hidden or latent potential of the observed reality on the basis of mathematics. Modern science and technology rooted in mathematics continues to support this assertion. This textbook systematically covers an extensive set of arithmetical, algebraic and geometrical manipulations. Such usages also show a deep understanding and applications of the zero, the place-based system, fractions, and the properties that emerge from such representations.

What is place-based numbering?

Reading from left to right in the number 305 each digit has a place based value, i.e. 300+0+5. Conceptually, the ten digit numbering system is a pure place value system. Zero plays two roles: Zero is nothing of everything, but depending on the place in a string it is also assumes the value of what that place represents. It is not unlike the difference between a large and small bowl which are said to be small or large (a value) depending on the space they contain, and not on the basis of the space that remains outside. We also call the contained space as place such as Earth is our place in the boundless space beyond.

By convention the status of zero comes from the fact that in a multi-digit (compound) number it has a value when placed to the right of any other numeral. By itself alone, or when placed to the left of a number, it has no value. In other words the place-value of zero emerges in relation to the context or the neighbors to the right and the left. The importance in the decimal system is that when zero is placed after a numeral, the value of the numeral is enhanced 10-fold.

Numbers move West. Possibly through the trade routes, knowledge of numbers (concepts and tools of the decimal system) moved to Central Asia and then to the Middle-East. Their symbols for numerals from the Central Asia region are virtually identical to those in *Brahmi*. As the concept of numbers moved farther west, notations for the numerals began to change around 800 CE to the current Arabic and European notations. The term *Arabic numerals* in the European vernacular acknowledges the fact that their source was Arabic. On the other hand, in the Middle-east these are called the *Hindu numbers*.

Certain features of the use of numbers did not change with the migration. Even in Arabic the digits of the larger numbers have decreasing value from the left-to-right of the numeral string i.e. the same way as in all other languages. In contrast, the order of the alphabets in words, and also for the string of the words in the Arabic an Hebrew text on a page is read from right-to-left. In fact, Arabic Books are printed in such a way that the first page also opens from rightmost page of the stack. Also an Arabic book is read by turning the pages such that the next page is to the left. Note that although Chinese write from top to bottom, the count on abacus is from left to right.

Systematization of sound for vocalization

The panache of the ancient Indian mind for systematization is also apparent in the way alphabets are arranged as vowels (*swar* or sounds emanating from different resonance cavities of the body) and consonants (*vyanjan* or the sounds modified with the movement of tongue) in Prakrits to modern Hindi. For example the range of the vowels “a” "i", "e", "o" or "u" follows from the different regions of the human respiratory system. The organs

used for resonating the phonemes of *a, aa, i, ii, u, uu, e, ei, o, ou, am, ah* move from abdomen for *aa* to the nasal chamber for *am-ah*. These sounds can be modified with the movement of the tongue to generate sounds of consonants like *k, ch, t, p* and *s*. Thus the phonemes build on the physiology and anatomy of the human sound producing system. In most other languages alphabets are assigned and arranged without such considerations.

In the yogic practices the range is integrated in the sound of "***aaoum***" – the primordial vocalization of all sounds (knowledge)! Such combinations of phonemes and lexemes are like formula for mental reality (*mantr*(a)) that enables, amplifies and configures conscious patterns of thought and behaviors. It is not too different than the limits to the use of a formula by a chemist to synthesize a desirable chemical agent.

Through the Arabic writings after 800 CE the Hindu numbers were disseminated farther West. The trade routes of Moors brought the numbering system to North Africa and then to Spain. Al-Khouarizmi's *Arithmetic* (ca. 850 CE) is the first Arabic work in which the decimal place value system and the computing operations based on it are explained in great detail. He showed how the value of the numeral changes when it is put in another place. He was also aware of zero.

In the 12th century CE when *Arithmetic* by Al-Khouarizmi was translated into Latin, his name was used in its Latin form *Algorithms* to denote the new Arithmetic. It applied the place value system for elementary computing operations. Apparently the European merchants did not understand the place value system. Initially, the system was banned in parts of Europe. In most places they did not see the advantage for several centuries, just as many Americans do not see the advantages of the metric

system. The numbering system gained full acceptance when the European use of a dot to represent zero was changed in a hollow circle.

Two world-views: numbers versus lines. While the abstraction of numbers going out of India was being adopted in the East, in Mesopotamia, Babylon and Egypt the thrust was on more practical aspect of mathematics for architecture and surveying. With the conquest of Greece by the Persian Empire (ca. 580 BCE), the Greeks began to move out and interact with other cultures and traditions. The Hellenistic culture in the Greek colonies to the South and East integrated the local knowledge. As the colonial Greeks came into possession of a vast number of arithmetical algorithms they began to wonder if there is some order in the way of solving such problems. They did not have their own mathematics. But they were not inhibited about asking poignant and skeptical questions. Their job was made easier because at least initially the Persians, Babylonians and Egyptians were all too eager to share information with the colonizers. Once the Greeks and later Romans entrenched into power, they used force and deceit to build a remarkable collection of books on parchment and papyrus scrolls. This fabled library of Alexandria, at its peak in 400 CE had a collection of over 200,000 books "*containing all the available knowledge of the world.*"

Tradition of Greek scholarship began with Thales (624-545 BCE) of Miletus (a port near Turkey). It was a busy trade harbor on the Western edge of the Persian Empire and on the eastern edge of Mediterranean. It attracted merchants and visitors from far and wide. Thales started a tradition of scholarship when he asserted that the Earth is round on the basis of the observation that the mast of a sailing ship appears first for an incoming ship,

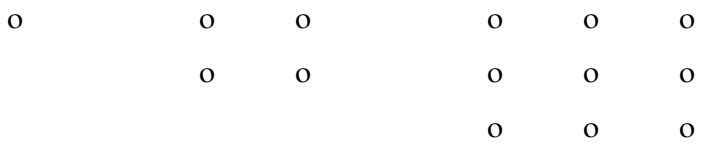
and disappears last for an outgoing ship. This was a remarkable insight: *Based on certain facts interpreted in certain ways one could infer about what is well beyond the reach*.

Thales argued against superstition and sloppy thinking. It is not clear if he was reacting to the Persians, or was inspired by some of the thoughts he had heard from the merchants. Before him there was little by way of the tradition of scholarship in these parts. The Greek mythology was as garbled with ridden with imageries and hyperboles as the Persian and Egyptian.

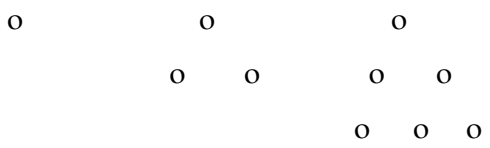
Although the two never met, Pythagoras (581-497 BCE) was inspired by the reputation of Thales. It is said that Pythagoras traveled as far as India. He managed to become a priest in an Egyptian temple. With access to the temple library for 13 years, he came across the way in which area of a right angled-triangle is calculated. He explained the results in terms of the properties of numbers that he had picked up during his stay in Babylon before coming to Egypt. His proof came to be known as the Pythagoras theorem. Based on the available documents it is clear that the Egyptians had other systematic ways of finding the square roots and ascertaining the validity of the calculation. Probably, their method was far too complicated, or the steps in Babylonian validation were loaded with memories of the centuries.

Pythagoras and Thales began the tradition of theorizing from the selected parts. The ancient traveling Greeks were at their best in such rationalizations and illustrations that common people could understand. In their colonies Greek were not burdened. At home they had little ancient knowledge that could become a baggage. In their playfulness to develop a quantitative worldview, the Pythagoreans tried to visualize the numbers. By

the following arrangements of pebbles, he "showed 1, 4 and 9 as the square numbers:"



Similarly, “1, 3 and 6 are triangle numbers:"



The numbers represented in such "geometrical notation are even." Clearly, 5 and 7 are "odd" in the sense that they do not succumb to such simple representations. The number 1 is both, which is a minor annoyance that can be explained away. Of course, absence of pebble was *nothing* to worry about. Beyond this the concept of zero did not bother or made sense to the Greeks or to the European Mind for another 2000 years until the merchants from the East brought it.

Two hundred years after Pythagoras, Euclid (ca. -300c) also living in Egypt managed to consolidate most of the available information about architecture and surveying in about 470 theorems. Without discovering any new law or making any original observation, he was able to consolidate virtually all the known observations in theorems that were based on the explicitly stated assumptions, and “nothing else” (except for some definitions). His book, titled *Elements*, has been a model textbook for the last 2000 years. As convoluted and marginal as many if not most of his proofs were, it did bring home a point: **spell out what you say and imply**. In this sense, in extending the vision of Pythagoras and Thales, *Elements* is believed to be the single most influential device in shaping expression of reason in and by

Western Mind. In spite of such a thorough scrutiny and usage, scores of serious errors of logic and limitations of the theory and hidden assumptions continued to be discovered even until the last century.

The last shining light of the Pythagoras tradition of the traveling Greeks was Hypatia. On a spring day in 415 CE she was dragged from the street in Alexandria and lynched by Christian monks in a Church. For this "contribution" of his stooges, Cyril was ordained as Pope. That day the dark ages descended with the ascendance of Christianity. Soon afterwards the fabled library of Alexandria was destroyed because its content were affront to the Christian world-view. The Roman Empire fell in 476 CE. This was followed by the rise of Islamic scholarship that also reorganized and preserved the scattered material from the East and West.

As they assembled a remarkable body of insights from the prior accumulated knowledge of the Middle East the Greeks spread thalassimmia, a genetic disease, Colonial authorities support the high ideals as long as they did not have to live by such *nonsense*. A traveler often muses about the local traditions as implicit in the term museum as the place where scholars muse themselves. Even to this day uninformed travelers are seen bemusing about the local cultures. Traditions rooted in the Greek colonies did not find home in Greece. Resources and the critical mass were missing. As the colonial Hellenistic Empire gave way to Romans, mathematics turned from sublime thought to an instrument for warfare and architecture. Even the Roman intellectuals like Cicero detested abstract mathematics and logic.

Rise of Europe: With the fall (ca. 1480 CE) of the Moor kingdom of Granada in Southern Spain, their libraries were transferred to different parts of Europe. This effort by the Jesuit monks

catalyzed the rise of Northern Europe, where quickly the knowledge and information became a property and commodity to be traded (Burke, 2000). This undermined the traditional institutions that thrived on the local resources, crafts and markets. Rise of technology and control of mass-markets encouraged extensive industrial espionage and propaganda campaigns. Before the dawn of 15th Century little indigenous culture had developed North and West of Alps. These people had contributed little knowledge for human progress (Essay III-15). The imported steel technology from South India via Assyria was adopted for making stronger swords and ships. By the middle of 15th century, the Chinese art of making black-powder was adopted into the technology of gunpowder for cannons. It unleashed indiscriminate slaughter and relentless Wars on one pretext or the other.

Learning as trade. Confluence of accumulated knowledge and tools has quickened the pace of innovation. A cross-cultural comparison and critical examination of the past has accelerated the pace of the technological progress during the last few centuries. Means and tools of technology, coupled with a modern scientific understanding of the physical reality, accomplish in years what used to take centuries and millennia by the isolated tribes. Control of larger territories and markets has also unleashed newer forces of change and innovations. It has also led to the revision of social and cultural values, albeit expressed through the same biological instincts. Therefore it is not surprising that at times, and certainly in many places, the forces of greed and grab seem to reign unchecked and freely, but with much more at stake.

Fascination with the visible order. The approach of Pythagoras of the searches for the ordered universe has fascinated many (Plato, Descartes, Poincare). Simply put, the difficulty with such representations is that our brains can visualize only three dimensions. Why does this matter? In effect we are dynamically blind towards virtually all nonlinear systems with more than a few variables. Although computer simulations now provide a way out, such solutions pose an age-old problem about the choice in the future. Do we want to be part of the proof and decision-making, or remain bystanders flabbergasted by a machine that knows best and can do no wrong? We have had enough problems with omniscience before. How can we stop what we cannot not see?

II-13. Rational Consistency

Consistency that "shadows" reality contributes to rational behaviors with ability to avoid dead ends and irreversible forks along the way.

Reality based representations (*satprarupana*) lead to viable and reliable insights where predictability follows the consistency. Possibly for such reasons, mathematics and logic has been a favorite occupation of the thinkers. Recall that around 3000 BCE Rishabhnath taught counting, use of calendar, and writing (Brahmi script) to his people. He developed the idea of conserved balance between the inputs, outputs, and the net. The world becomes a less scary place if we can name things and know their origins. World is a problem of measuring and counting. Deeper understanding follows from the power of the numbers represented in a systemic way, such as the place-based decimal system. Through such conceptual devices and tools, even very large quantities become manageable for expression and manipulation. Infinite seems within the grasp of the power relations.

The Nay adage is that systematic reasoning guided by the tangibles can do the same. The attribute of rational consistency is critical for going from disorder of the unknown to the known order and the order of the known. Restraints and constraints to ward off contradictions and inconsistencies increase reliability and predictability of behaviors. As rationality is equated with the consistency of behaviors, a trajectory of acts becomes a decided and determined course of actions and behaviors towards desired goal with better chances of success.

Rational numbers. Consistency is built into the place-based representation and manipulability of numbers. Could this be the origin of term rational numbers? I am not sure but have a look. Systematic and predictable variation of numbers has led to the characterization of the "real" numbers which can be whole or fraction, as well as positive and negative. In this class lie the subclass of rational numbers that are expressible only as the whole number, or as a fraction of the whole number. The whole numbers are expressed as:

1/1, 2/1, 3/1, 4/1 and so on.

Similarly, the fractions of a whole number are expressed as:

1/1, 1/2, 1/3, 1/4 and so on.

Among the number purists, from Pythagoras down, the numbers that behave "irrationally" have been enigma. These include the value of *pi* (π) or the square root of two.

As noted before the idea of rational consistency follows from the regularity of the sequence. To move the argument further, the rational numbers are defined as those that are expressed as a ratio of two whole numbers. It provides a way to express "the whole" in terms of the defined parts. The ascending sequence describes a class in terms of the unit. The descending sequence relates to the parts in the unit of the entity.

In the anugam tradition such dealings with the numbers is the penchant of a seamless rational argument. With the same panache, rational behavior is a reflection of the consistent and seamless harmony of the parts (acts and actions). It is a prerequisite to put together the parts into a whole. From this perspective it is easy to understand rational perception as*: If the whole is broken into parts, the whole must also come together from the*

parts. If this does not happen then there is logical doubt (syad) for which alternatives are to be considered (anekant).

Nested-powers. There is something remarkable about the theme of representation through simple numbers nested as powers and exponents. In the normal place-based system we cover one at a time the range between 1 and virtually uncountable. Through the fractions we can find a rational representation of what may have multiple parts approaching uncountable. Fractionation of a set gives parts that are of the same kind. Through nested powers we can manageably represent the large numbers, and gain insight into sets of sets to arrive at the uncountable and the indivisible. A class converges to unity through fractions. On the other hand manipulations of 1 (unit) with the whole or fractional exponents do not change its value. Thus a number based representation can be operated upon as a "set" as well as a "unit." The paradox of "infinite divisibility" results on the way from a unit to zero. Therefore discreteness is an essential part of the representation of entities.

Space as boundless *nothing*. An entity exists in space that is represented as nothing, yet is the medium to represent every material with physical dimensions. How do we understand such nothingness? In number representation, by convention zero assumes a meaning in the context of the place-based numerals (II-12). It works a lot better than use of the 10 fingers to take stock of the universe. Virtually all entities, real and imagined, can be expressed in terms of numbers and then manipulated with operators. In the end, the smallest of the reality is always 1 (unit) of something. So how does it relate to the nothing or zero?

Paradoxically, if "it is" (zero exists) then "nothing" is something. It is in this sense the convention of zero assigns it a special property such as if placed to the right of a digit it increases its value by 10-fold. If placed to the left, it doe not change value (also by convention) but it may still carry other information. In the absence of entities zero is like the available space. It provides a place for each and every entity. This is the assigned value. It does not change the values of the rest of the space that remains unoccupied and unassigned.

Space as zero without a place-value. Conception of *nothingness* is intriguing. It may be conjectural but it is not an observable with the attributes of a represented entity. It is not just absence of something, but space is something more than a place. Some ancient ideas are interesting:

(a) Space (***akash***) is conceptualized as *nothing* or boundless emptiness as the medium for representation. Its attributes are different than that of the material entities separated by space or the events delineated by time. Space exists whether or not anything exists in it. In this nothingness we may be able to place things without changing the content of the entity nor does it become an entity. However the space becomes an entity in the context of a bounded place, and in the context of other entities in relation to time. It would be interesting to see if this representation of space as a non-entity gets around some of the problem of defining space in modern physics.

(b) By placing entities in a space, it becomes a place (a world unto itself) with attributes of content, shape, size, dimensions, and units within the limits of the boundaries. Here the nothingness becomes a place by convention where a finite world order is

created by introducing real entities (like the real numbers between 1 and 9).

(c) The concept of nothingness is also inherent in the *syad-nay*. In Nay reasoning, evidence-based response to a suitably worded assertion can only be affirmed in the sense of existence. Inability to affirm does not necessarily mean a lack of existence but it could be lack of suitable assertion that can be affirmed. Such doubt calls for a continuing search for assertions that can be affirmed.

(d) Similar problem is encountered in the representations based on "implication," "negation," and "all." If the counts make the reality comprehensible. uncountable does not necessarily imply nothing or infinite. Exceedingly large is not infinite, and certainly all of reality is not infinite. By similar reasoning, the small may be exceedingly small, but the underlying reality never disappears but runs into limit of discreteness of the smallest represented entity. In this sense the problems of singularities, infinite regress and infinite divisibility are extrapolations that cross the bounds of reality into the realm of *nothing*, zero, or the space of bound less nothing.

Representation is rule-based grammar of the discreteness of entities. It shadows and coheres with the contours of reality. The deeper structures of discreteness may lay not only in the content but also the relations, operations and manipulations as cycles within cycles, hierarchy, and chaos. Such representations de-coheres (become irrelevant) if extrapolated beyond the limits of the very basis of representation of reality.

II-14. Looking through the Parts

Categories of human thought are never fixed in any one definite form. They are made, unmade and remade incessantly.

- Durkheim

The jump from 'how' to 'why' is as unsafe as the jump from 'is' to 'ought.'

- David Hume

Representation of reality requires interpretation of the context of the observed (*pratyackh*) in terms of defined criteria. Such interactions provide a measure (*paman*) of the content and context for further reasoning to address concerns. Such interactions are through curiosity-driven generic questions that begin with:

what (individual, entity, category, content),

where (distribution),

when (prior history),

how large (size),

how many (count in numbers),

how long ago (time duration),

why (relationships, actions and consequences)

how (do you know?)

who (says so?) and *why* (should you trust?)

Starting with curiosity and concern the search proceeds empirically. Learning by trial and error is part of the word play as well as the physical exploration by the young of most animals. It is at the core of the modern scientific methods. Such playfulness leads to sensible behaviors and validation based on practice. In contrast, an oppressive feeling of rule-based game (dogma-based-thought and behaviors) is elicited by ad hoc, a priori, free will and other invocations of omnipotent and omniscience.

Certainty about identifiable parts is useful for real-time decisions. In a curiosity driven search one starts with the assumption that what we experience exists and is real. For its representation we interpret the experience and share the underlying reality. All representations consistent with reality are in the sense of "it is so" or "exist." We may not know it all, but by acknowledging the underlying complexity one remains aware of the fact that we have grasp of parts of the world that have significant consequences for us.

A hallmark of the criteria-based empirical approach is that it explores a wide range of perceptions to come to terms with diversity of behaviors. The complexity of the perceived worlds may not be obvious or comprehensible. Yet we can be confident about the parts discerned through practice. Also with room for doubt detours can be corrected without reliance on the unknown or worse.

The journey towards certitudes begin from the perceptions shaped by the extent of the observer interactions with the observed. Of all the beings, humans appear to be capable of the widest range of perceptions: from stone blind to sublime, considerate, and rational. The range of experiences and their representations are also shaped by perceptions. Although not explicitly emphasized in the sciences, the extent and quality of interactions is certainly a consideration to identify a, if not the, *domain of reason and rationality.* We rely on such measures for the statistical evaluation of human behaviors as in learning, education, economics, and social interactions. By some criteria average behavior is the norm of the realized potential. A measure of the unrealized lies in the departures from the norm for the animate as well as the inanimate. Very few may understand what lies beyond, but fewer are willing to do something about it.

Rationality lies in availing choices, making decision, then acting on the decisions. To an extent nurture and culture influence the emphasis and assumptions that shape perception, and more so for the modes of their expression. Thus we speak of seeking knowledge or truth. If the emphasis is on pre-existence or pre-eminence of truth, reality is a mere afterthought. It is possibly an extension of the childhood interactions. With this mindset one looks for something that may be out there, or be known to somebody out there. Hopefully it is already pre-approved for the play. The same view is inherent in the word discovery as in *the discovery of the New World*. As applied to the discovery-of-Americas, it blatantly ignores reality. Not only the land mass existed long before the Vikings or Christopher Columbus set foot, but the land was also the home for millions of people.

Empirical explorations have guided the general well being of human race. It is far more than what can be said about any omniscience experienced by the seers or seekers of *the truth*. Rather than dwelling on the arrogance of *the discovery of truth,* emphasis of empirical interaction and search is on the practice-based alternatives. From this vantage we speak of science-based knowledge. As shared knowledge it has evolved in many places and over extended periods of time. In such contexts with changing inputs and expectations it is far more appropriate and meaningful to talk about degrees of certainty rather than the truth.

II-15. Active Interaction

Gandhi used to talk disparagingly of dreaming of systems so perfect that no one will need to be good.

- E. F. Schumacher

Perceptions to create value

I have heard this anecdote in several versions. There was a well-to-do merchant. He used to welcome each of his new daughter-in-laws with the present of a bagful of rice paddy. Seeing his end near, he called for each of them and asked what they did with the bag they received decades earlier. One who had stomped out years ago, after feeling insulted with the gift of a bag of rice paddy said, "I will bring some from my store." The second remarked that she had forgotten about it, and she is surprised that the old man would even recall such a small thing decades later. The third said, "Of course, I have kept your gift and worshipped it all my life." The last said, "I have been blessed with that gift of excellent quality of seed. Now after twenty years we have hundreds of tons of that seed."

After telling this version, to me and my new wife, my father asked me "to whom would you give charge of your household?" Looking back, the parable is a remarkable illustration of the potential perceived by the of quality of interaction. Clearly, the way we perceive new inputs charts the course for the realization of the opportunity to create value. In the grand design of the universe, that bag of paddy is for sustenance as well as for sustainability. Sensibility dictates that we make judicious choices.

If perturbations in the space-time continuum make us aware of the underlying reality, resulting perceptions are critical for the realization of the potential of the reality. Definite outcome from the confluence of directed actions is also a reaffirmation of reality. Perception of such changes shapes the decision to act, or not to act. It sets the course of the trajectory for actions. Rationality lies in the realization that what becomes of a being is the consequence of such actions. The current state of being is the representation of the perceptions from the prior actions. With suitable decisions a being can influence its own transition from one qualitative state to another. Feedback from the experience also brings about a change in perception unless the behavior is inconsequential as mere sum of random acts.

Shared knowledge is an incrementally evolutionary process.

For the evolutionary changes over a period of time one assumes that the quirks of interaction are mere detours on the way to the desired equilibrium state where all wrinkles have been ironed out. In contrast, all real-time behaviors are based on the perceptions of prior knowledge, as well as the web of motives that underlie individual decisions. Such perceptions are critical for the real-time dealings for survival needs. Passing events are perturbations in awareness and far from the equilibrium of the perceptions. Often, until it is too late, the significant perturbations are not readily distinguishable from a steady stream of otherwise random events and associated mental chatter.

Is play purposeful? It is an age-old question. In spite of its tremendous impact and contribution the chaotic nature of the scientific exploration and the tentativeness of the scientific inferences makes some people uneasy. Many are willing to ignore

tremendous choices offered by the technological progress, possibly because in a perverse way it has reduced the individual choices for the consequential decisions. For most people a secure environment lacks something fundamental as if the individual acts do not cohere into a recognizable trajectory of action.

Did a flower bloom if nobody saw it bloom? If a bee saw it, the resulting interactions are beneficial to both -one gets the food and the other is helped in spreading its genetic material. Not quite *quid pro quo*, consequential nonetheless. On the other hand, if such interaction did not take place, the bloom was a total loss into the multitude of the nonproductive and inconsequential random events of the universe. In effect, the flower might as well have not bloomed.

Left alone most events remain mere noise blips in the scheme of things. Consider consequences of interactions that may or may not be consequential. When do we know that an event will create opportunity? Without sustained interaction such an happening is mere noise. It is a flower that bloomed but never realized its potential. If the event is acknowledged and registers into perception the realized potential will depend on the quality of the interaction. Quality of perception also assures the reliability of the decided course of action.

What brings a bee to a flower? We may not have an answer but it is worth exploring. It is quite likely that bees are programmed to be attracted to some quality of the flower determined by color, shape, and the fragrance. Does bee know that? Irrespective of the answer, bee does its job for the flower while trying to get to the nectar. In this sense, it is not clear if the bee is aware of only of the qualities of a certain flowers, or if bee perceives the functions of flowers for the plant, or any other higher purpose in the scheme of their relationship. Yet the pieces of the puzzle come together in a

successful strategy for the bee and also for the plant. Do we know what happened to the bees and flowers that did not interact? On the evolutionary ladder we can only see the consequences of the consistently successful outcomes.

It is simply amazing that mutual dependence (liking, preference, symbiosis) is a norm among organisms. It is built into survival strategies that transcend individual aspects of being a bee or for that matter any other organism. However attributes and behaviors co-evolve from the trial and error strategy that is built into the sum total of the experiences. Any changes would also adopt to the changes. Yet mutually beneficial processes go on even in the total absence of the knowledge of the underlying purpose, functions and mechanisms. It is in the nature of the being.

The purpose of being and being viably independent is not based on a narrow deterministic causality. For collective existence most species thrive only in a mutually beneficial relationship with its own kind as well as the others. Imagine the situation if a bee did nothing for the flower. The end result would be nothing short of the disaster where most plants will not be able to propagate and strengthen their genetic stock. The bee also looses because it may not have the flowers to thrive. Does a bee or a flower *know* this? Probably, they do not - at least not in the anthropomorphic terms. Probably, a perception of their utility is an integral part of their sensibility. Looking around, without such dependences between organisms the universe would certainly be a lot more inanimate.

II-16. Anugam to Agam

In the customs and institutions destined for the abode of learned men and the cultivation of learning, everything is found adverse to the progress of knowledge.

- Bacon

Thoughts from the tradition of Mahaveer were organized by 515 BCE in 12 parts (Table II-3) under the leadership of Gautam(a) and then Sudharm. Significant changes occurred during the next 500 years. Bhadrbahu I was the last to move forward the tradition but he did not have a suitable successor. The conceptual core of the tradition disintegrated with the dislocation of the original group (ca. 350 BCE). A significant part of the first 11 Ang material survived but only in fragmented and rearranged parts often in secondary sources. The 12th Ang was considered lost. However remarkable work of the last century has also restored its major parts from the Shatkhandagam with the Dhavla commentaries. Together these works form the core of the Jain Agam or the legacy from the past.

The focus of this site is on *itthivay* the 12th Ang. In Laghistrayam (LT#76 in the Volume IV of the Nay section on this site) Aklank alludes to the relationship of Jeevatthan with Nay:
(a) ***Jeevatthan*** is the first part of Shatkhandagam, and possibly the most ancient, as the way to collect information about the tangibles of a concern.
(b) ***Nay*** reasoning with such tangibles is also the ancient anugam tradition. It was formalized as ***vacch-nay*** by Gautam for the discourses and further developed as ***saptbhangi*** by Bhadrbahu. The Gautam's work was reassembled around 50 BCE by Akchpad

which was later called Gautam's Nyay Sutr. These and other aspects of Nay were later elaborated by Siddhsen (Siddhasena) and Aklank, which is now called the Jain Nyay.

Based on the Jeevatthan and Nay material on this site I believe that the purpose of at least the 12th Ang was to inspire a critical approach to extract operating principles from the behaviors rooted in tangible reality. Pragmatism of this activist approach lies in empathy rather than mere compassion or a series of unreasonable compromises.

A major shift has occurred in the way the agam material is viewed. Agam material is not a repository of the principles. The thrust of the content of Agam is the anugam approach. It is forward looking goal of inquiry and reasoning to arrive at practice-based conduct that facilitates development of operational principles of lasting value. The anugam methods are still dispensed through a medium of parable and *ardh-kathanak* (half-stories and tales without explicit ending). Unfortunately such practices at least on the surface are guided by ad hoc constructs rather than reasoning and thought. The net result of the change in emphasis is that where cognition and comprehension formed the basis for the real-time perceptions for anugam, the appeal of agam has shifted to the knowledge from the past.

My view of the agam material is that such works fall into five major categories:

(a) ***Methods*** of analysis (*anugam* based on *praman* and *parikcha*) to evaluate and scrutinize previous knowledge as well as the validity of the messenger.

(b) ***Concepts and principles*** (*Siddhant*) from the fragments of the 12th Ang of *itthivay* (Essays II-11 to 15).

(c) **Syad and Saptbhangi Nay** for valid inference (Essays II-9 and 12; III-9, 12, 18, 19, 22, and the Nay section of this site).

(d) ***Shravakachar*** for codes of conduct of human affairs (Essays II-8, III-13, 14, 16, 19-21, 26, 28).

Derived Agam literature. Most of the derived material is in fundamental accord with the secular reasoning processes designed to improve human condition. Such tools and devices are usable in appropriate context as guide for future actions. Major subclasses of the derived literature are:

Charit: Biography

Chulica: Notes and appendices for elaboration

Churni: Outline or the backbone of the text.

Gatha (Gadya): Lyrical form

Gutka: anthology for layman

Katha: Story or novella

Kavya: Poetic form, not necessarily fiction

Mimansa: Critical arguments

Pad (Padya): Stepwise text

Pahud: Treatise

Parikcha: Critical examination and review

Puran: Epic and fiction

Saar: Abridged version

Sangahani (sangrahani): Compilation

Sutr: Short notes that are threaded for continuity

Tika: Interpretation and review with examples and illustrations. The Dhavlas are *tika* or review commenary. ***Bhasya*** with authoritative or divine insights are unknown in this tradition. Aphorisms (***mantr***) and the devotional literature appeared only after 1400 CE.

Innovations to disseminate prior knowledge and current thought is useful to explore, elaborate and update the concept boundaries in relation to wide ranging experiences of the

readership in the changing context. The tradition of the book-less did not embraced the idea of a divine authoritative text, such as Bible, Koran, or Ved. The book-less encouraged thought and ideas through reasoning, self-study and discussion by all including layman. It is done in wide ranging written forms that resonate with the wider range of experiences. Parables, tales, and *ardh-kathanak* (half-stories without explicit ending) are particularly effective to explore mass psyche. Possibly for such reason, the tales of *Panchtantr* have found their way along the trade routes into Aesop's Fables, Arabian Nights, and the derived literature with trite endings.

Logic is the lens to probe the mind: An interesting feature of the derived material is that they give a summary of the earlier work as well as identify their limitations. A careful look at the arguments of the *purv pakch* (earlier views) often provides insight into the way arguments have evolved through discussions and debates. Such an approach to understanding the thought process of social and cultural cross currents are probably more meaningful than the relies of history that rely on mentions of the work and the authorship.

Any concept of divine or omniscience is counter to a tradition of shared knowledge. Also in the Syad-Anekant tradition unpredictable events and chance occurrences (*atishay* or miracles) can neither be affirmed nor not-affirmed (Essay A-11, II-9). Their relevance is left for evaluation by the individual. Such realms of perception are explored through parables, stories, reinterpreted myths, art and sculpture). However it is also clear as Bhadrbahu emphasized miracles may happen but one can not rely on such chance events.

II-17. Preservation of Legacy

The major advances in civilization are processes that all but wreck the societies in which they occur.

- Alfred North Whitehead

No new major cohesive force emerged after the original group left Patliputr in 350 BCE with Bhadrbahu. The move must have shifted the emphasis of the orally transmitted knowledge from integrity, vitality and growth of the tradition to survival and preservation. It is remarkable that against numerous odds, the tradition continues to flourish to this day without any interruption. The tradition prevented people from looking for the "second coming" and kept at bay cults of prospective messiahs by making Mahaveer as "the last."

It is tribute to the internal strength of the traditions that over the last 25 centuries, from time to time the committed and the dedicated alike seek, find, and bring out the relevance of the material for the changing conditions. In fact, more than any other ancient system this tradition is closest to the modern secular methods for addressing issues of human condition. In several ways the 2500 year old "causes" for social activism by Mahaveer are well entrenched globally:

- More than ever before, the reality-based interpretations and world-views are accepted norms for behaviors.
- The appeal of omniscience to improve human condition is now all but gone. If in doubt: Ask around who would like to go back and live the life of 200 years ago?
- Thanks to the likes of Mahatma Gandhi non-violence is relevant for social and political discourse even in the international

arena. There is increasing appreciation of the wisdom of the practices of nonviolent and curtailed consumption and possessions on a shrinking small planet.

- Interdependence of all beings for "live, let live and thrive" is the basis for sustainability and environmental activism.
- More than ever before, more people are able to realize their potential and create value with a greater emphasis on better opportunities in education and health to increased productivity. In fact, progress in improving the quality of life has come from the recognition that most people can and do change their personal and social behaviors to become contributing members of society.
- By all measures the process of analytical reasoning has also regained its intellectual vigor in broader contexts. The reality-based reasoning continues to guide search for ways to validate perceptions.

What kept the tradition vital? An unexpected outcome of the dispersal from Patliputr was that many centers of learning were established in geographically, culturally, and politically distant regions of India. From time to time it vitalized the thought that gave considerable flexibility to develop interpretations based on the local needs and practices. The practice based approach also created an appreciation of the tradition in the general population.

It appears that from the beginning representatives of many groups met regularly. In such conventions major decisions were taken about the interpretation, development, and future of the orally transmitted material. It also meant a wiggling room for individual innovations of scholarship and conduct. It is not unlikely that isolated groups may have been susceptible to whims of their leaders, and smaller groups may have found it difficult to develop new ideas, or even preserve integrity of the tradition.

II-18. Legacy of Dharsen

There is absolutely no inevitability as long as there is a willingness to contemplate what is happening.

- Marshall McLuhan

Written language enables each generation to profit more fully from the thought and work of previous generations.

- Unknown

It is said that discourses of Mahaveer were accessible to humans as well as other beings.

More than 300 years after the departure of Bhadrbahu from Patliputr, some of the material was known to Dharsen. Seeing the inevitable, Dharsen, a recluse monk who lived in the Girinar hills in West India, made a suggestion of remarkable foresight. Through a letter to the convention of monks, that was to be held in Mahimanagar (Satara district), Dharsen suggested that the authenticated remaining *Shurt*- material be written down. The response initiated the preservation of what we know to be the Jain Agam.

Pushpdant and Bhutbali were chosen to study with Dharsen. Their task was to learn, understand, and then write down the fragment known to Dharsen. Over the next century, and 600 years after Mahaveer, the effort resulted in the written and reorganized text of *Mahakarm Prakrti Prbhat* part of ***itthivay or*** the 12th ang (Table II-4). As known now, some 15,000 steps of text (*pad*) is divided into three parts: ***Shatkhandagam***, ***Karm Prabhat*** and ***Kashay Prabhat***. The first part of this work is ***Jeevatthan***.

The initiative of Dharsen preserved a large part, if not the entire, of the orally transmitted material (*shrut-agam*). The written

form freed the students from memorizing the material, which unleashed a surge of scholarship. The written material also reduced reliance on a direct teacher-pupil contact. Since written words are better suited for thoughtful scrutiny, copies of the written *pandulipis* inspired wide-ranging critical interpretations and reviews. Widely scattered *pandulipi* copies also preserved the textual and physical integrity of the written material (see the essay on *Uses of the Words from the Past* on this site about the current state of the Pandulipis).

What is *sadhna*? A need for self-motivated contemplation for critical understanding (*sadhna*) comes from the fact that no two events are exactly alike. By the same token, even with the same knowledge of the event, perceptions of two people are rarely alike. Humans express perceptions and thoughts through words. Yet the act of perceiving or thinking is not through words or even a linear process. Often a specific thought is formulated as a concept, and through words we share the concept with others. In the days when written material was rare, oral transmission of concepts required great parsimony and economy of words. Such a care is clearly restored in the formulation of the ancient material to be arranged in the step form such as Chapters A through H of Jeevatthan (Volume I). Steps are designed for *sadhna* by thoughtful individuals willing to work at it for understanding not only the content but also explore the boundaries with their own thought processes. Formulation and dissemination of thought in short steps requires a deeper understanding of the etymology and usage of the language as well as the reasoning in the intellectual and cultural contexts. In short, ***reasoning (nay)* and analysis (*anugam*) build on representation (*prarupan*a) through sadhna.**

Dharsen was concerned about preserving the integrity of the material. He set high standards for his disciples. As the story

goes, mentioned in The Dhavla, to guard against potential problems associated with inaccurate version and interpretation of the material for the generations to come, Dharsen chose his two disciples only after giving them a test. One was given a *sutr (*possibly a gatha*)* with one extra syllable, and the other was given another with one missing syllable. Both were asked to return when they understood the assignment. According to the anecdote, after their *sadhna* (critical-examination), a devi (goddess) appeared in the vision. It had extra body part (*bhut* or ghost) for the one with extra syllable. The devi seen by the disciple who was given the missing syllable had a missing *dant* (tooth). Both the disciples realized the significance. Instead of going back to the master for the correction, they did their home-work. After making what they considered to be the necessary corrections, both saw the beauty of the totally balanced form. On their return, the master was convinced about their suitability for the task that lay ahead.

Shrutpanchami: Anniversary of the day on which Pushpdant and Bhutbali completed their lessons with Dharsen is still celebrated by the Jain scholars as *Shrutpanchami*, the day on which the orally transmitted material was ready to be written down. Even to this day on this fifth day of the rising moon at the beginning of the monsoon season scholars take-stock of their written material for safekeeping. It was always a major event in the household of my parents.

In the tradition of conferring new identity to break away from the past, the master blessed the pupils with new names: Bhutbali for the one who had "sacrificed" the ghost, and Pushpdant for arranging "teeth as petals of a flower," Note the flower and teeth metaphors allude to matrix form with systematic

and incremental change. The analogy of teeth also goes to the content - as in "let us put some teeth in the argument." The anecdote beautifully underscores the strategy for documenting important works, including the importance of understanding that comes with Sadhna – the self-motivated contemplation for critical understanding.

Table II- 4. The Intellectual Legacy of Dharsen and Shatkhandagam

Period	*Author: Work*
ca. 37-100 CE	Shatkhandagam (based on Agrayaniy 2nd Purv) by Pushpdant and Bhutbali. The first five Khand form the basis for **Dhavla**, and the sixth Karm Prabhat is the basis for **MahaDhavla**. Kashay Prabhat or Kashay Pahud (based on the Gyan Pravad 5th purv) Gundev and Brashabh is the basis for **JaiDhavla**.
ca. 150 CE	Kundkund (Padmanandi): Parikarm tika, Shravakachar, Panchastikay Prabhat, and Samay Sar.
ca. 200 CE	Umaswami: Tatvarth Sutr
ca. 200 CE	Samatbhadr: Apt Mimansa
ca. 300 EC	Vidyanand: Apt Parikha
ca 300 CE	Shamkund and Pujyapad: tika on Tatvarth sutr
ca 400 CE	Tumbluur: Chudamani
ca 600 CE	Bappadev: Vyakhya Pragypti
ca 700 CE	Aklank: Tatvarth Rajvartik
816 CE	Virsen and Jinsen: **The Dhavla** tika on Shatkhandagam. The Jai Dhavla tika also appeared in this period.
900-1400 CE	Hemchandr, Nemichandr, Mallikasen on topics from **Dhavla**.

Dharsen saw the urgency of the task. In about 4 months he taught Pushpdant and Bhutbali portions of the fifth and twelfth

ang, *viahapannati* and *itthivay*. This material was apparently in the form of gatha - the two liner lyrical forms. Seeing his end near, the Master asked both the pupils to leave immediately after completing the studies even though the rainy season was upon them. To guard against potential dangers they were asked to go in different directions. Fortunately, both had a long working life with many students and supporters. Pushpadant apparently settled in Ankaleshwar (Gujrat). Palm trees grow in this area, however it is not known if the technology to write the first pandulipi of Jeevathan existed in this area. It appears that over the next seven decades Bhutbali with Jinpalit, a pupil of Pushpadant, organized at least four other parts of what is now known as Shatkhandaham.

The Dhavlas and other works

Dharsen had set in motion an intellectual push for organization, examination, and scrutiny of the ancient material that was orally transmitted. It allowed for the continuity of thought without an obligatory need for a teacher or a pupil. Over the next 800 years it inspired intellectual inquiry and scrutiny (Table II- 4). The original pandulipi of the work by Pushpdant and Bhutbali is not available. However, there are numerous cross-references to this work in the derived literature. One of the most complete of these, The Dhavla *tika* (completed 816 CE) was rediscovered as Moodbidri pandulipi scribed around 1060 CE (II-19). Besides Jeevatthan and parts of Shatkhandagam, Dhavla also contains commentaries on other contemporary works.

Tradition of intellectual integrity. The three Dhavlas are elaborate interpretation and review of Shatkhandagam, Karm Prabhat and Kashay Prabhat. The Dhavla was completed on October 8, 816 by Virsen and Jinsen. The date is established on the

basis of the planetary positions (*kundli*) given at the end of the work. The adjective *dhaval* stands for bright and luminescent white. Dhavla is an appropriate term for the remarkable synthesis of the ancient ideas that came to fruition in about 800 years through efforts of Dharsen, Pushpdant, Bhutbali, Gundev, Brashabh, Kundkund, Veersen, Jinsen and many others. It is not clear what happened to the original pandulipis of many of these works. However this work is extensively copied, cross-referenced, and commented on by subsequent scholars. Dhavlas are scholarly texts designed for *sadhna*, which has also encouraged numerous abridged versions.

Dhavla represent a synthesis of the collective work set in motion seven centuries earlier by Dharsen. It is an important point that is often missed even by the scholars. As a guide for future work and to appreciate the content and scope of Dhavla, it is useful to understand the constraints of time and historical changes. As a working hypothesis for the rest of this article, I propose that Dharsen and Dhavla set in motion a synthesis of orthogonal approaches: Synthesis of Apt, Nay (with Syad and Anekant) and anugam (analysis) are devices for representation. Individually each is useful as teaching and learning device. Dhavla bring out an appreciation of the orthogonality of two powerful tools used by humans: **The ability of humans to reason while entertaining doubt (*syad*), and to look at viable alternatives (*anekant*) to reduce remaining doubt in stages.**

A review synthesis is critical to arrive at a restatement of the inferences that shape our perceptions and world-views. Just being a skeptic is not enough. A believable person (***apt***) is a sincere inquirer who not only entertains doubt but also suggests and develops alternatives. It is critical to move forward an argument and develop a process to resolve the future problem.

Integrity of individual is in the integrity of the process, and not the other way.

Synthesis of Apt with Anugam and Nay. The tradition of open discussion and elaboration benefited from the availability of the written material. It provided a common basis for teaching, scrutiny, and further developments in the emerging contexts. For the continuity of this tradition of inquiry consider a critical question addressed in *Apt-mimansa* of Kundkund, and the *Apt-Pariksha* of Samantbhadr. Who is an *Apt*? The question 'Who should one trust?' is relevant for building the body of experience based shared knowledge created by and for people. This works also sets remarkably strict evidence based criteria for settling such issues to uphold intellectual integrity. It has become part of the Nay reasoning where *apt vachan* refers to their word construct rather than the person.

Shared knowledge by people is not inspired by the other worldly sources. Even if there was one how would one know Who is messiah? How do you know? Whose principles and conclusions are believable? Why should one trust such a person? Or it is all in the imaginings? Since one can neither deny nor demonstrate the existence of such omniscience, one can at least be beware of the fraud identified in terms of inconsistencies and contradictions. After that let the facts speak for themselves. A force of authority, even an imagined one, can only be detrimental. Such pragmatic solutions follow from the criteria based critical scrutiny. A system of criteria-based inquiry extends the reach of the established parts of the world along established ways of reasoning to validate perceptions.

II-19. The Moodbidri Pandulipis

Imagine, how much has disappeared and lost for ever.
Paper has been proven to last through the centuries.
Computers have no such track record.

- Alan AtKisson

The Moodbidri pandulipis (scribed around 1060 CE) represent the oldest known written material of the tradition going back to Mahaveer. This *pandulipi* copy contains the original Prakrit text of the Dhavla scribed in old Kannad. Besides the script and the writing material the Karnatak region has been particularly hospitable to virtually all thoughts that came to the region (see http://en.wikipedia.org/wiki/Kannada)

The Digambar tradition regards this material to be the only authentic remnant of the literature traceable to Mahaveer and his predecessors. The original written material of Pushpdant and Bhutbali has not survived. This oldest known copy of The Dhavla pandulipi is now preserved in a temple in Moodbidri, a town nestled in the hills of North-Western Karnatak (India). It is in hale-Kannad script on the leaves of *tal* (or *tad*) palm. The characters are scratched with a sharp stylus, not unlike the brail writing for the blind. Possibly the original writing with sharp stylus is done with ink. As the ink began to fade, the scratching can be made visible by rubbing soot. The naturally dried leaves for the *talpatra* medium of writing were extensively process as evidenced by the fact that it has not significantly deteriorated over a period of 1000 years.

The Dhavla and 4000 other pandulipi are in the Siddhant Basadi temple and adjoining structure in Moodbidri. The name refers to the place where the works of founding principles (*Siddhant*) are preserved. The Dhavla pandulipi was apparently

scribed in Shravanbelgola (Jainbidri), about 200 miles east of Moodbidri. Shravanbelgola has been the site of learning and *sadhna* since Vishakhacharya arrived there ca. 335 BC (II-9). It maintained a continuous and thriving tradition of learning and scholarship for over 1500 years.

Organization of the Sangh and its support system in Shravanbegola began to deteriorate in 17th century. With the onslaught of the Moguls, Mongols and Turks, sometimes around 1700 AD the pandulipi collection, and possibly some of the precious stone statuettes, were moved from Shravanbelgola to Moodbidri. Its geographical location nestled in hills, stands in contrast with the history of upheavals and intolerance of zealots and invaders marauding through much of India including Mysore near Shravanbelgola. The transfer was undertaken for the safety. Thus material was preserved without becoming inaccessible as it could have been in a private collection, or the so called ancient manuscript libraries, or even British Museum.

When "rediscovered" in mid 19th century, the pandulipis were object of ritual worship. Over the years even the temple guardians could not read the script, let alone understand the content. Probably it was a successful strategy for safekeeping of the material written down on the fragile aged leaves of palm. The content of The Dhavla, mostly in Prakrit language, is scribed in ancient hale-Kannad on 592 strips (27w x 3 inches) of leaves of tal palm. Content of the pandulipi tell that the original pandulipi of Shatkhandagam by Pushpdant and Bhutbali was also on tal palm leaves that had dried on the tree. After all it is unacceptable to damage a tree even for a book on principles. Now the pandulipi has been engraved on copper plates, and possibly microfilmed. Hopefully the digital versions would be available to all on internet in due course.

Meanwhile. The last millennia marked a period of major upheavals in the History of India under the external influences, if not subjugation. By 900 CE a virulent form of the cast system was in place. Its un-motivating influence was set in motion 1700 years earlier by a system invented by the Ary migrants. It promoted the birth and trade based social hierarchy headed by rituals of priests and princes. It facilitated Mogul expansion justified with a newly discovered violent brand of "truth." Resulting chaos and arbitrariness was not conducive to exploration of the alternatives through subtleties of thoughts and imagination.

Little changed during the British Raj. Economic and political hold of the Moguls was replaced in the late 18th century by the British Raj accompanied by another brand of truth perpetuated by the missionaries who upheld the colonial interests. To support the Industrial revolution in Europe it became necessary to introduce rails and roads to move raw materials one way and the finished goods the other way. It encouraged consumer culture for the imported products and culture reinforced by the missionary and educational network. It happened in unimaginable guises and disguises, much of which are not found in the Western history books. Net effect of it was that everything Indian took a second tier.

A degree of interest and pride in things Indian was always there at the grass roots. Although economically and politically marginalized, such groups retained integrity and continuity of traditions. From time to time they were reinvigorated by curiosity. One such event was the interest in the contents of the 'bundle' of the Moodbidri pandulipid by a visitor in 1887. Deciphering of the material took five decades. The period also paralleled the growth of the independence movement under the leadership of Mahatma Gandhi. Events leading to the publication

of the printed form of Shatkhandagam with Dhavla based on the Moodbidri pandulipi are remarkable. My perspective on what transpired is outlined below. It provides insights into the forces that helped in keeping the continuity of the tradition of thought with remarkable integrity and intellectual honesty.

Disciplining the meaning. At this stage it is probably useful to have an appreciation of how a line of thought from 2600 years ago came to be rendered into steps reproduced in Chapters A though H. It is clear that Mahaveer used the everyday language of the common people. At least towards the end he also had a large number of disciples and colleagues, with whom he had more pithy discourses. The content of discourses was organized within 15 years after the death of Mahaveer. As the original group began to disperse (II-9), around 365 CE it was deemed necessary to reorganize the material so that it can be transmitted by those who may not be familiar with the subtleties of the arguments. I believe it was formulated in the form of *gatha* or two liner poetic forms with the hope that the underlying thought process may be reconstituted later at some other place.

Disciplining thought for the linearity of the language. It is the limitation of the language that no two people see exactly the same "meaning" in the same sequence of words they hear. The problem is compounded further as words for discussions and discourses are rendered into the more formal forms of presentations. Something is inevitably lost in disciplining (***anushashan***) thought in words. In good writing one hopes to retain key elements of thought from which others can reconstruct arguments, if not the nuances. The Jeevatthan text is such a reconstruction by Pushpdant and Bhutbali. It includes the following criteria and

rule-based disciplined changes necessitated by the use of the source material that was orally transmitted for 500 years.

Gatha-anushashan: In all likelihood the orally transmitted ancient material was arranged in lyrical two-liner forms (***Gatha***). Such constructs are easier to memorize and recite. Also Dharsen knew some of the gatha that he taught to Pushpdant and Bhutbali. The available Jeev Samas gatha (Essay II-26) also bear a remarkable resemblance to the content and organization of Jeevatthan.

Pad-anushashan: Pushpdant and Bhutbali were given the responsibility of organizing the orally transmitted gatha material in a written text form. It took them more than a decade to complete Jeevatthan. It took another 4 decades to complete the other parts of Shatkhandagam. They organized the text in the form of steps (***pad***).

Tika: Review and interpretations. The Dhavlas by Virsen and Jinsen are advanced monographs where the contributions of the predecessors are clearly acknowledged and demarcated. It retains integrity and continuity of the content. In the ancient tradition, it develops a template for discussion and exchange of ideas. Scrutiny reflected in some of the questions is refreshing. The text is amplified with hypothetical examples. The text references other thoughts, beliefs, arguments, and texts. Many of which are still available.

Bhasha-anushashan: Recall that the language of the Moodbidri pandulipi is Prakrit scribed in ancient hale-Kannad. From the footnotes in the printed edition (1939-1944) it is clear that the Prakrit text is "tweaked" at very few places to assign, fix, ascertain, and render it readable in the modern form in the Nagari script as reproduced here in Chapters A to H of Jeevatthan.

As developed in the remainder of this volume, about 60 years of effort by several dedicated scholars was needed to bring the text in a modern form. It requires not only peering into the 2500 year old thought process but also an understanding of the language usage, syntax, grammar, context, and above all a grasp of logic that permeates and binds the arguments. An appreciation of some of the difficulties is critical to understand the magnitude of the task. The first difficulty was to bring the text from an extinct *hale-Kannad* script to the Nagari script. During 1894 to 1916 Loknath transcribed the text to modern Kannad. Then, mostly from an unauthorized copy of the Kannad version smuggled out of Moodbidri to Saharanpur, Sitaram transcribed the text in Nagari.

The content of the text is in ancient Prakrit, which neither of the two transcribers understood. The original text in the pandulipi did not use punctuations (commas, stops, paragraphs, chapter breaks). Some of these were introduced by the transcribers, which created considerable confusion later. There are other indications of the beginning of major sections and chapters. By comparing the text to other secondary material, Heera Lal Jain (Chapter I-20) developed rules and guidelines to discipline the ancient text to a modern form while retaining its integrity. With this achieved he and two other scholars (Phool Chand and Bal Chand) were able to complete the Dhavla-translation into Nagari.

My interpretive translation of the content of Jeevatthan and Nay works into English builds on certain features of the ancient texts:

(a) Simplicity of the original language with economy of words.

(b) Strategy of placing an abstract up front.

(c) Organization of the entire material as a matrix that is built into the tradition of analysis by organization and categorization.
(d) The derived texts and traditions provide yet another level of insights into the meaning and intentions as perceived through centuries of evolution of thought.
(e) Based on my understanding I have divided the text into paragraphs and sections separated by asterisks. It brings together the steps with short range continuity of a thought. It also emphasizes the algorithmic way of exploring a theme within the defined parameters.

Interpretive translation with Bhav-Anushashan. Quite early into this work it became clear to my father and also to others that the task of exploring the pithy issues is for the future generations. One of their limitations was that the material was deciphered and then printed in parts. They did not have the advantage of looking at the whole text before the final form was printed. Even in the numerous reprints and plagiarized form of this work, no attempt has been made to elaborate the content to get to the thought processes. Admittedly it is a difficult task that requires peering into the 2500 year old tradition thought process without deeper understanding of the language usage, syntax, grammar, context, and above all the conceptual parameters that bind the arguments.

In an attempt to peer into the minds of those who gave and continued this tradition of thought, the current interpretive translation in English is amplified with essays on themes and concepts relevant in the context of new millennium. Brevity, continuity and integrity of the ancient text is retained by placing my interpretations and thoughts in separate essays and notes. While retaining the terseness of the original text I also draw on modern examples in the context of the Western Thought. I hope

that on their own readers will find additional insights and subtleties.

II-20. Content of Moodbidri Pandulipis

Time flies like an arrow, fruit flies like a banana.

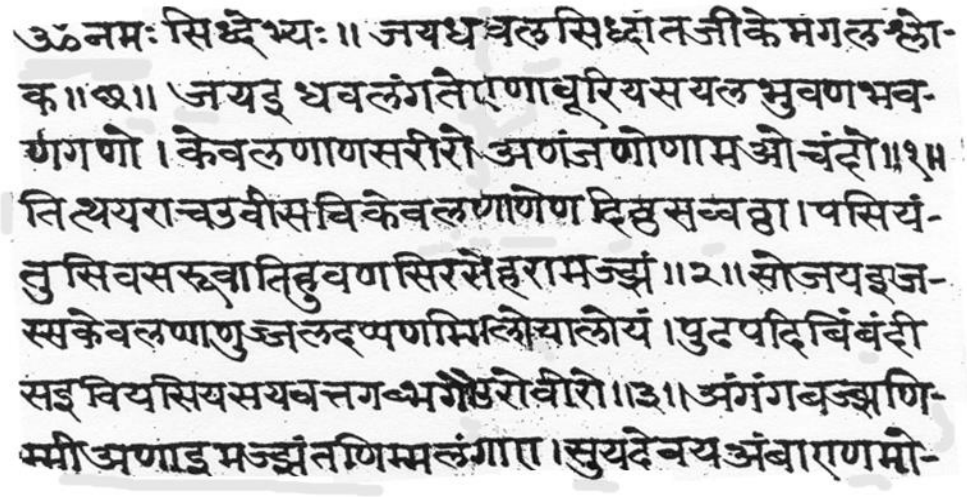
- Groucho Marks

Existence of the Moodbidri pandulipis has been known widely for several centuries. The gist of its content is clear from the work of Nemichandr on Nay and related works. He lived in Shravanbelgola during the middle of the 11th century. In the late eighteenth century, Pandit Todarmal of Rajasthan attempted to bring the pandulipis in a published form. However, funds and suitable scholars could not be found. Over the next 100 years, with the construction of roads and railways, many more visitors were drawn to Moodbidri to see the diamond statuettes (*Heera-ki-Pratima*) of the ascetic Arihant monks.

Occasional scholar or layman would ask for the viewing of the pandulipis. One such person was Manikchand of Sholapur. In 1883, on his return home, he decided that unless something is done soon the legacy in the Moodbidri Pandulipi might be lost for ever. At his instigation, between 1896 and 1922, through donations from the Jain community arranged by Manikchand and Hirachand, the content was hand-scribed by six different scholars, including Loknath and Sitaram. It was fortunate that one of the few remaining persons who could read hale-Kannad script was found in Shravanbelgola. Possibly, it is not a coincidence that he had learnt to read the script as a family tradition. It would not be surprising if he descended from those who 900 years earlier scribed the pandulipi in Shravanbelgola. Not only the hale-

Kannad was not taught in schools, the old alphabets were virtually forgotten even by the scholars.

With this outcome of the effort of about 3 decades, single copies of the transcribed work became available in two different modern scripts: 1500 pages (14 x 6") in Nagari script, and 2800 pages in the modern Kannad script. The trustees of the Moodbidri temple did not permit the copies to leave the temple premises. Somehow one complete copy, in modern Kannad made in parallel by wife of one of the scribes, was smuggled out. It found its way to Saharanpur in North India. During 1923-26 Gajpati Shastri read the Kannad script of the Prakri text which was scribed in Nagari by Sitaram Shastri. Neither understood the contents. By 1932 at least a dozen copies had proliferated in the Nagari script with their own shares of mistakes. Such "copies of copies" found place in more than a dozen Jain temples around the country. See Figure II-3 for a sample of such very readable copy.


ॐनमः सिध्देभ्यः ॥ जयधवलसिध्दांतजीकेमगलश्लो-
क ॥१॥ जयउ धवलंगतेएणाबूरियसयलभुवणभव-
णंगणो । केवलणाणसरीरो अणंजणोणामओचंदो॥१॥
तित्थयराचउवीसविकेवलणाणेण दिहसव्वट्ठा । पसियं-
तु सिवसरूवातिहुवणसिरसेहरामज्झं ॥२॥सोजयइजज-
स्सकेवलणाणुज्जलदप्पणमिल्लोयालोयं । पुदपदिबिंबंदी
सइवियसियसयवत्तगब्भगौउरोवीरो॥३॥अंगंगबज्झणि-
म्मीअणाइमज्झंतणिम्मलंगाए । सुयदेवयअंबाएणमो-

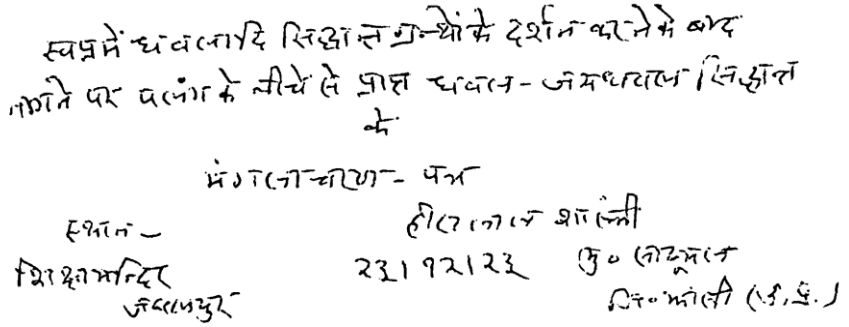


Figure II- 3. (Top) Fragment from the copy of the Moodbidri pandulipis of Jai Dhavala scribed in Nagari. (Bottom) a note from Kakka who found this fragment in 1923 (see text).

Challenges of heritage of the words from the past

Over the 1896-1926 period, more than half a dozen scribes, including Loknath and Sitaram, had worked on the initial project. The scribes had no clue of the meaning or etymology of the words, let alone the grammatical structure of the language, the content, the logic, or even the tradition. Such aspects bind the content with the deeper structure of the concepts and thought processes. To appreciate the extent of difficulty that lay ahead, reader may try to copy a page of text in an unfamiliar language. It was also recognized later that some of the parts were missing in addition to their own share of missing lines and mis-scribed words. Ironically, these were the kind of limitations of which Dharsen was fully aware of two millennia before. With such limitations, Jain scholars were concerned about the proliferation of the copies in a language that few understood. It is the kind of ritual against which Mahaveer had argued twenty-five centuries before!

Yet many wanted to worship "The Dhavla Bundle," whereas few were determined to understand the content. It is remarkable that many opposing forces worked to fulfill their own

responsibilities. No matter how one judges the decisions of the Trustees of the Moodbidri Mandir (temple) to preserve the integrity of the pandulipis versus the proliferation of the copies, we should be eternally grateful to both did their jobs so well. The end result brought out the best of both. It is also remarkable that the Jain community took its responsibility seriously. They provided resources and expertise, and raised concerns. It was considered a community effort, even though stages of the work were financially supported by individuals. This practice wards against the concern that a single benefactor may have an agenda or a bias.

Table II- 5. The Hindi Translation of the Dhavlas in Print

1939-1958 A, B, C worked on The Dahavla with Shatkhandagam published in sixteen volumes (by Jain Sahitya Uddharak Fund, Amraoti, and later by Jain Sanskrati Singh, Sholapur). A wrote introduction to Shatkhandagam text edited by Sumatibai Shah (1965).

1945-59 A worked on Parikarm tika by Kundkund

1945-84 A, B, D, E worked on the Kashay Pahud (of Gandhar and Brashabh) published as Jai Dhavla in 13 volumes (The Jain Sangh, Mathura), and as single volume by A.

1973-75 A worked on Kashay Prabhat Churni with the MahaDhavla tika published in four volume (Gyanmandal Press, Varanasi and Sanmati Press, Delhi).

Translators: A, Heera Lal Jain; B, Phool Chandr Jain; C, Bal Chandr Jain; D, Kailash Chandr Jain; E, Mahendra Kumar Jain (not the present author).

Moodbidri pandulipis are irreplaceable heritage, and the task of deciphering their content was monumental. This consensus brought help and cooperation from a variety of sources, including the trustees of the Moodbidri temple. The works listed in Table II-5 are remarkable achievements of scholarship of half a dozen scholars. Working in the tradition and spirit of Dharsen, Pushpdant, Bhutbali, and others, a modern version of The Dhavla was published, with the steps of Shatkhandagam, secondary sources, and notes of interpretation. Soon thereafter JaiDhavla and MahaDhavla were published. The task of elaborating the through processes of the content in the modern context was deemed to be the responsibility of the future generations.

With this understanding, through the work presented on this site I hope to identify viable thoughts from the past and seek their relevance as heuristic guide for the future. Aim of the interpretive translation is to bring the Anugam process and the Agam principles to the attention of wider audience. With the advantage of hindsight, I also outline events and thoughts on the promises and perils of intellectual enterprise in social contexts. I have a more detailed knowledge of the background of the story because my father, Heera Lal Jain (1904-1981) my father who I call Kakka, spent over six decades (1922-1981) in bringing a part of the ancient material of ***itthivay ang*** to the modern Hindi form. Some of the factual material for the next few essays has also come from his notes, diaries, and articles. Extensive forwards, editorial notes and introductions from his books are remarkable resources for which he kept impeccable records.

II-21. Kakka Takes the Challenge

Intellectual drive is ones own calling.

- Kakka

The unauthorized copies of the Moodbidri pandulipi brought a renewed interest and awareness about the roots and contents of this irreplaceable heritage. Older is better in India - just as the bigger is better in the American mind. In spite of the verified claim of far more ancient physical and intellectual roots, even to this day the Arihant tradition of the Jains is often mis-considered a splinter branch of the Hinduism dominated by the Indo-Aryan tradition.

Availability of the Moodbidri pandulipi invigorated reexamination of the heritage. Trustees of the Moodbidri temple, as well as many other groups, were initially opposed to any suggestion of publication of The Dhavla. On the other hand, availability of the unauthorized copies brought to the attention of many young scholars the challenge of understanding the content. They were also inspired by the influence of Gandhi who brought resurgence for all-things-Indian (*Bhartiy*). These young scholars, derogatorily called the 'Babu Pandit' by the more traditional segment of the society, pressed on. Their concern was that unless the content is suitably understood and elaborated the copies may mistranslated and misinterpreted, which is worse than as the objects of blind worship.

The basis for the Satprarupana text was established during 1933-36 by Kakka. The article published in Jain Siddhant Bhaskar in 1938 (I-20) established rules for the interpretation and

verification the material of the genera in a modern form by systematically associating the content and context with other contemporary and later works. Such insights played an important role in bringing the 12th Ang (*itthivay*) material to the modern form. I recount some of his inspiring and instructive biographical encounters that have largely remained in the background.

In 1916, when Kakka was 12 years old his older brother, just back from a pilgrimage to Moodbidri, talked with enthusiasm about the need to understand the content of the Moodbidri pandulipi. Again in 1923, as a student living in a hostel in Jabalpur, in a dream he saw himself studying the pandulipis. Next day, while cleaning his shared room he found a couple of fragments hand-written in Nagari on the floor under his bed. One of these, along with his dated note of December 23, 1923, is reproduced in Figure II-3. It is not clear how the fragments found their way to the hostel. However, it is certain that after 1918 parts of the 'copies of the copies' were widely disseminated. From the script it appears that the fragment is in the handwriting of Sitaram Shastri. In 1926 Kakka was invited to Saharanpur for a series of lectures. There for the first time he met Sitaram Shastri who was transcribing the material in Nagari as Gajpati Shastri read the modern Kannad from a smuggled copy. The ensuing conversation made it clear to Kakka that it is absolutely necessary to learn Prakrit to fully appreciate the contents of the pandulipi. For several years Kakka on his own learnt Prakrit, and in 1930-1931 with Bechar Das and later with Virbhadra in Beawar. He learnt about usage of ancient Prakrit from several Shvetambar monks. In 1932, he published an article on the Prakrit roots of many of the Sanskrit terms used in the ancient Digambar Jain writings.

Kakka writes of another dream in 1933 in which he was studying Dhavla. Only four days later, during an unplanned visit to Jhalarapatan with Seth Lal Chand, he was shown another copy of the Moodbidri pandulipi. In my opinion this visit was not so coincidental. It is quite likely that the trip was organized to encourage Kakka to work on the translation after Lal Chand has obtained a copy of the copy made in Saharanpur. After this visit Kakka started making detailed notes of the Moodbidri pandulipi related material found in different locations. Serious discrepancies were noted while comparing the copies in Ajmer, Jhalrapapatan and Saharanpur.

The copies of copies that found their way into the various Temple libraries alarmed some and inspired others. A name-sake of Kakka, Professor Hiralal Jain whom I will call Professor, also traces his interest to seeing the Karanja copy in 1924. The Jain Sahitya Uddharak Fund was established in 1934 largely through a single donor. These funds were obtained by consented hijacking of the funds earmarked by Luxmi Chand of Vidisha for a more ritualistic purpose. The mission of the Uddharak Fund was to bring out an authoritative printed Hindi version of The Dhavla. Professor was appointed the *mantri* (secretary-manager) of the fund. By all accounts, Pahud Doha edited by Professor Hira Lal was not a success. It was out of sequence and out of context compensium of 222 gathas of Jai Dhavala. To put it politely, it was not an inspiring work - certainly not the kind that would make anybody proud. After this reception from the traditional scholars, Professor decided to build his career as a manager.

A segment of the Jain community was very enthusiastic about the idea of publication of the Dhavlas in a modern form. At the same time, there were valid concerns about incompetent handling of the work that can only add to the confusion arising

from the proliferation of mistandled works. After examining the material Professor had produced, the trustees of Moodbidri Temple again refused to authorize the use of their pandulipi. The community also advised the Professor to seek expert help to build a broader scholarly consensus.

The episode of premature publication, clash of egos, and a lack of the "people skills" of Professor became widely known in the intellectual circles. The tenure of Banshidhar Jain with the Uddharak Fund lasted about a month. He left irritated by ill-conceived notions of the Mantri. The legalistic style of Professor coupled with a lack of understanding of the nuances of traditional literature and scholarship did not sit well with most traditional scholars. On the other hand, familiarity with English and the legal system is useful for a manager. To this day I do not understand what persuaded Kakka to move to Amraoti in 1939.

Addressing concerns about the challenge of the Dhavla work at the Itarsi convention in December 1933, Kakka offered some suggestions. During 1933-1938 he continued this work in Ujjain with tacit support of Lal Chand. As mentioned above the breakthrough from this work was published in Jain Siddhat Bhaskar in 1938 (Chapter I-20). In it he identified historicity of the content, the context of Satprarupana as the first part of the Jeevatthan, and established its connection to the later works. The Professor and A. N. Upadhye were on the editorial board of this journal. Therefore it is not a coincidence that after the publication of the paper the Professor renewed his efforts to bring Kakka to Uddharak Fund in Amraoti for the Dhavla work.

According to the Professor's remarks in the introduction published with Satprarupana in 1939 (Figure II-4A), the first volume of Shatkhandagam, little progress was made by the Fund in Amraoti until the effort was reorganized with the arrival of

Kakka on January 1, 1939. At the insistence of Nathuram Premi, in spite of his best judgment Kakka decided to leave Ujjain. With him he also took complete drafts of the first three volumes of Shatkhandagam, and a reasonably complete list of the Prakrit *sutr* of Jeevathan published in five volumes.

Before we go into the success of the publication effort, a detour is in order to understand the gravity of the mission and the background work needed to establish the basic rules for successful handling of these ancient works. During 1923-1936 Kakka developed the rules of translation from the ancient Prakrit, and now these rules are generally accepted. As a possible guide to the scholars as well as the layman, key conceptual break-through outlined in the 1938 paper of only 9 pages are noteworthy.

1. The paper identifies the *Jeevatthan* (*Jeevasthan*) as the conceptual crux of The Dhavla.

2. It compares the 175 steps of Satprarupana in Prakrit by Pushpadant (from the pandulipi) with the Sanskrit version found in *Sarvarthsiddhi* by Pujyapad (ca. 500 CE) and a commentary by Shrutsagar. The comparison establishes the precedence of the Prakrit work. The paper shows that Kakka had identified the beginning of the text, deciphered the sequence of steps and meaning of satprarupana as the first chapter of Jeevatthan. Two additional *sutr* to the text were included after comparison with the Saharanpur copy.

3. Besides establishing the numbering style for sutr, the paper clearly outlines the relationship of the sequence to the core concepts of Jeevatthan.

4. Several points of discord between the Prakrit and Sanskrit versions are noted. A point of particular interest is that the conception of "indeterminate knowledge" (*syad* or the knowledge with doubt) is absent in the Sanskrit version.

5. That Pushpadant and Bhutbali organized this work about 600 years after Mahaveer, as also confirmed by the later findings.
6. Origin of *dristi*, as the (mis-) translation of *itthi*, occurred in the Sanskrit rendition.

At the end of the paper it is clearly stated that the content of the Jeevatthan was widely available before 500 CE. The content also showed that the heritage of Moodbidri pandulipi is in the tradition of the 12th Ang of itthivay. Finally it also showed that at least some of the later works may be based on the fragments of the body of the ancient work.

II-22. About Kakka

Concrete and meaningful reasoning is initiated with the rule bound constructs.

- Manikya Nandi

Heera Lal Jain Shastri (1904-1981), my father who I call Kakka because everybody else called him so, saw pursuit of the material of the 12th Ang as his calling. He pursued this single handedly with self-reliance, which he himself described as dedicated to *itthivay*. It is not about a single-minded pursuit because he was always aware of the parallel developments and open to meaningful suggestions. Although a stickler for detail, for him the context and overview was critically important for the evaluation of the subtleties of the content.

To peer into the thought process of the 12th Ang one needs an understanding of how we formalize sense inputs through words to communicate thought and inference. These are the concerns of *vacch-nay* reasoning as is apparent in Saptbhangi. Unlike the binary syllogism of the Western logic, the Nay approach is concerned with the grasp of the entire content in appropriate context, which also provide insights into intention and meaning for the future use of knowledge. These ideas are developed in the Nay section on this site.

Ever since his student days Kakka began to focus on the Nay reasoning to formulate thought. As I understood from him and his writings, the beauty and the intellectual foundation of reasoned thought is that it has to stand on its own. Authority of tabgle thought comes from what it is and its demonstrable basis, rather than where it came from lor what it promises to be. A

reality based thought remains accessible irrespective of time and place, or culture and history.

What Can a Rupia coin do?

Ganesh Prashad (1874-1961), at the age of 30 wanted to be apprentice of Jeev Nath Mishr, Professor of Nyay at Queens College, Varansi. Professor literally threw him out when he heard that the applicant was born into a lower caste. And things turned ugly when the Brahmin Professor learnt that Ganesh was interested in the Jain tradition.

After hearing about this incidence a friend Chaman Lal donated as princely sum of one rupee (in those days working wage was 5 rupees per month) with which Ganesh bought 64 postcards and wrote to 64 people about his plan to establish an institution. The end result was that the Syadvad Vidhyalay established in 1908 on the banks of Ganga in Varanasi where students of all background could study Nyay and whatever else they wanted. Soon it came to be a major center of learning that included students of all castes including the Brahmins. During the next decade Ganesh also persuaded Madan Mohan Malviya to establish the Department of Jain Philosophy at the Banaras Hindu University. Although the Vidyalay is still flourishing, the University Department has been closed down by the Government.

At this stage, as a prelude to the Dhavla work, a few words about Kakka's background and work philosophy are relevant. He writes in the introduction to Pramey Ratnamala that in 1919 at the age of 15 he studied *Nyay* from a 15th century pandulipi in a temple in Lalitpur. In response to a query from Kakka, his teacher Ghanshyam Das encouraged him to someday bring out a modern interpretation of this work. This inspired the young student to

keeping notes from around that time that took the form of a book 45 years later published in 1964. Its several hand-written drafts were widely circulated and placed in Jain Vidyalay for use by students and teachers. Note that, quite contrary to the tradition of the period, when Pramey Ratnamala was written (around or before 9th century CE) its first verse (Manglacharan) does not acknowledge inspiration from a teacher or a deity. It is only befitting that as a primer on Nay should also stand on its own without authority or a priori. Unfortunately the work has been reprinted by somebody else without acknowledging the original source for more than 95% of the material.

Ways to acknowledge inspiration

What matter for sholarhsip is that credit and blame are given where it is due. Over the millennia acceptable ways to credit for creative inspiration have changed with attitudes towards responsibility for the work:

- The Divine words (Ved)
- The divine insights (Sermon from the mount)
- Meditation and spiritual ways of oracles
- Astrology and other chance based methods of discourse
- Dreams
- Logic
- Prepared Mind
- Spontaneous insight
- Response to being wronged

Divine inspiration and omniscience communicate authority of the ad hoc that calls for faith and belief. On the other hand Nay works lack such acknowledgements because human constructs derive truth-value from perceived reality.

As Kakka developed a deeper understanding of Nay, he began to apply these methods and criteria. By most accounts Kakka was a prolific writer. He was never in a hurry to push any work in print before he was thoroughly satisfied with it at a deeper conceptual level. He also earned reputation as a no-nonsense teacher. This attitude also permeated in his talks, as well as in his dealings with people.

Soon after his schooling, Kakka established the working style of a free-lance scholar. He once said that *why drink un-potable water if you can dig a well for better water.* He went to places with ancient libraries. Going through the contents, he developed a knack for comparing multiple copies with a deeper understanding of the style in relation to the content, concepts, and the thoughts leading to the work. Before the days of copying-machines, collecting such material in long hand meant spending months at a given place! However, scribing things in long hand also gave an opportunity to think along to analyze and organize thought. Such a level of understanding is lost with the xerox-syndrome of possessing a photocopy without ever having read anything critically. Looking back at many of his preserved hand-written notes and press-copies, now I understand how he also developed a steady-hand for speedy writing without mistakes. As a student, I was always impressed with his letters: a string of well-reasoned thoughts unblemished by scratches. I appreciate it even more now as I work with a word-processor.

To make the ends meet, Kakka would typically teach in Jain Pathshala (religious schools). He preferred to tutor monks and interested layman who often are critical and thoughtful learners. Such short term arrangements offered him flexibility of the working hours and travel. Some of his students also became his lifelong friends, and even sponsored his work. As he puts it:

This way I do not have to go begging from the establishment and organizations run by people who do not understand scholarship and the intellectual work. It turned out to be a premonition that amounted to a vow of poverty against which the establishment offered no benediction.

One event in particular had a tremendous impact on our family. When Abhidhan Rajendra Kosh, an authoritative compendium of the Prakrit usage, was published in the early thirties, Kakka bought a personal copy by selling about 300 grams of the family gold. It may have facilitated his work, but did not make him any wiser about the family affairs. My mother was not particularly thrilled, especially because after that from time to time she had to give up her only remaining bracelet and necklace for loan from a pawn-broker. It went on 36 times over the next 30 years, and each time the lucky bracelet and necklace came back!

Work habit. By mid-1930s Kakka began to be recognized as an expert with a deep understanding of the Nay syllogism with insights into the practical usage of the ancient Prakrit. The investment in the Kosh had a far greater impact on me. All of us siblings in our formative years were impressed with the seven volumes of the Abhidhan Rajendra Kosh of the Prakrit usage. For the Shrutpanchami celebration or Deepawali, we were often asked to move these massive volumes weighing over 25 kilograms.

The professional expectations of kakka moulded his personal habits, although it is more common the other way. After the Itarsi convention 1933, Kakka made a commitment to himself to work on The Dhavla. It was backed up by Lal Chand, a successful industrialist of Ujjain. Over the years (from 1928 until parted by death) Kakka enjoyed his confidence and friendship. As a family tutor, coupled with advising, sponsorship, and deep

personal concerns for the families of each other, Kakka had free time to do his work. Lal Chand had taken Kakka to Jhalrapatan as a "surprise" to show the copy of Dhavla. Once Lal Chand noted Kakka is not available in the afternoons. In a politely written letter, Kakka first ruled out the possibility that he was lazy. Then he pointed out that he needed rest in the afternoon. Then he noted that Lal Chand was too busy with his business in the morning which the best time for learning.

The habit of afternoon rest did not change until his last days. Through the years we all lived with its "consequences." By the time we got up at 7 AM or after, Kakka had usually completed four to six hours of work. While we were awed as the hand-written pages turned into printed books, we were also inspired that it is after all a human effort. I also learnt from it that even I could do something someday, if I make effort. However, in those years, to me it looked like a near-impossible task because I will have to get up at some awful hours at night. But now I understand and believe in what Kakka once said that *it is not worth doing, if you do not feel like getting up at 3 AM for it*.

Kakka's schedule suited well for his need for peace and quiet – as if it disappeared after we woke up! To us it was inconvenient only because the quiet must also prevail in the household in the afternoon and also after 8 PM. So, in those days without TV and radio, we had plenty of time to study, read, and converse without getting too animated and noisy. It also created an easier line of communication with my mother, who had her own style of doing things. It is probably reflected at its best in her comment after our household acquired the first radio in 1960. One evening she wondered out aloud *why does the evening news always last fifteen minutes.* To her, if you can complete a task in five minutes it should take only five minutes. And if it requires days to

do it well, so be it. Some of my siblings may disagree about my impressions, but all of us all seem to have such enduring individual impressions. I have not asked them about theirs.

Peering into Kakka's Mind. In my later years, even more impressive was Kakka's reasoned tone of discussions and written correspondence with many of the contemporary scholars. At times the same courtesy was also accorded to me if I cared to ask a carefully reasoned and suitably worded question. Even after 50 years, some of these moments are etched in my memory, which have guided my perceptions and personal quests as a scientific researcher for experimentally verifiable knowledge.

Significance of my interactions with Kakka, and also with his work, did not become clear to me until I began to examine the strengths and limitations of the modern scientific methods for my own work. It forced me to peer into the workings of Kakka's mind, as well as into the meaning of the representation and interpretation. I have been richly rewarded. Some of these insights are interspersed though this site, particularly in the essay and the quotations of others.

I started to puzzle what questions may have intrigued a budding Nay scholar when he first saw the fragments from a copy of the Moodbidri pandulipi. In Pramey Ratnamala, agam is defined as:

आप्तवचनादि -निबन्धनमर्थज्ञानमागमः

The concrete and meaningful reasoning is initiated from the rule bound constructs from the past. In other words, *nibandh* (the rule-bound construct) is the key for representation for interpretation. It applies to the two-liner gatha as well as for the development of a reasoned argument through a matrix of steps for a scientific proof.

As an endorsement of intellectual integrity, here the appeal is for what is communicated by the sum total of a construct that is both a source of knowledge and also a means for knowledge. At I interpret it with this understanding I presume Kakka viewed the Dhavlas as a synthesis to peer into the mind through words.

For the students of thought it is noteworthy that Kakka's interpretation of Syad-Anekant-Nay remained at odds with the Varanasi Syadvad School. This group of all-too-powerful scholars interpreted syad-anekant as relativism verging on rhetoric, figure of speech, or context-dependent plurality. In such interpretation a person can be a father, son, brother, as well as a thief. They fail to recognize that reasoning is about a defined state of the content and the context, and not about multiple states. No matter how one cuts it, a rhetoric invoking multiple states. Such confusion has set back the understanding of Syad-Anekant Nay.

In contrast, syad and anekant together seek constructs from evidence based reality. In the process, the Nay methods facilitate recognition of liabilities in an inference about a defined concern. Such Syad calls for a change of inference as new evidence becomes available, and Anekant call for new assertion, inference or evidence if the state of the concern changes.

II-23. Move for Shatkhandagam

Without publicity there is no prosperity.

- Zel'dovich principle

During 1934-38 Kakka kept working on Jeevatthan from the copies available in Ajmer, Jhalrapatan, and Saharanpur. By the time I was born in 1938, in Ujjain he had completed work on Satprarupana (I-20) as well as the next three chapters with detailed notes for two more. Six weeks after my birth, our family moved to Amraoti in December 1938. This was at the insistence of many of the Kakka's friends who saw that the work of the Uddharak Fund in Amraoti was stalled. Kakka was aware of the potential problems associated with the move. He was also aware that ambitions of Professor did not match his abilities. At the same time Kakka felt sure that he could come back to Ujjain if he wished so. He saw the move as *an opportunity to materialize his dreams*. He felt confident. After all, he had nearly finished the work on the Jeethan. Within months after arrival in Amraoti he purchased a house. It is the only house in which he ever tried to settle away from his ancestral home in Sadumar. Apparently, he thought that his nomadic days of free-lance work are to be over soon.

On Kakka's part there was eagerness to see his work in print. He started work for the Fund on January 1, 1939. After comparing his draft with the copy in Amraoti, within eight weeks his hand-written pandulipi was sent to press for typesetting. In February 1939 Phool Chandr Jain, whom I will call Panditji, also joined in the effort.

Publication of Satprarupana as the first volume of Shatkhandagam in 410 pages was celebrated as a major event on November 7, 1939. As is apparent from the front pages of the first printed edition (Figures II-4 B and C), seeds of discord were already sown. Also as is apparent from Figure II-4 D to F the problem worsened in the second edition. Kakka resigned on the day of celebration as soon as he saw the cover of the printed version for the first time. On the dustcover the Professor is Editor. On the inside cover page in Hindi, Professor is Editor with Panditji and Kakka as the Sah-Sampadak (coeditor). On the inside English cover Professor takes credit for translation, introduction and editing "assisted by" Panditji and Kakka. On the other hand, the preface (Figure II-4A) gave credit to Kakka for his work in Ujjain. Needless to say Kakka had not seen the complete printed and bound book before the inauguration ceremony, although he had corrected the galley and page proofs. The final product clearly violated the initial understanding that Professor is only a secretary and manager. Before the publication date an agreement was reached to include all the three as the co-editors with equal credit in all the volumes. Clearly, the agreement was not honored.

अतएव एक सहायक स्थायी रूपसे रख लेनेकी आवश्यकता प्रतीत हुई। सन १९३५ में बीनानिवासी पं. वंशीधरजी व्याकरणाचार्यको मैंने बुला लिया, किन्तु लगभग एक माह कार्य करनेके पश्चात् ही कुछ गार्हस्थिक आवश्यकताके कारण उन्हें कार्य छोड़कर चले जाना पड़ा। तत्पश्चात् साढूमल (झांसी) के निवासी पं. हीरालालजी शास्त्री न्यायतीर्थको बुलानेकी बात हुई। वे प्रथम तीन वर्ष उज्जैनमें रायबहादुर सेठ लालचन्दजीके यहां रहते हुए ही कार्य करते रहे। किन्तु गत जनवरीसे वे यहां बुला लिये गये और तबसे वे इस कार्यमें मेरी सहायता कर रहे हैं। उसी समयसे बिना निवासी पं. फूलचन्दजी सिद्धान्तशास्त्रीकी भी नियुक्ति करली गई है और वे भी अब इसी कार्यमें मेरे साथ तत्परतासे संलग्न हैं। तथा व्यक्तिगत रूपसे यथावसर अन्य विद्वानोंका भी परामर्श लेते रहे हैं।

प्राकृतपाठ संशोधनसम्बंधी नियम हमने प्रेस कापीके दो सौ पृष्ठ राजाराम कालेज कोल्हापुरके अर्धमागधीके प्रोफेसर, हमारे सहयोगी व अनेक प्राकृत ग्रंथोंका अत्यन्त कुशलतासे सम्पादन करनेवाले डाक्टर ए. एन्. उपाध्येके साथ पढ़कर निश्चित किये। तथा अनुवादके संशोधनमें जैनधर्मके प्रकाण्ड विद्वान सि. शा. पं. देवकीनन्दनजीका भी समय समय पर साहाय्य लिया गया। इन दोनों सहयोगियोंकी इस निर्व्याज सहायताका मुझ पर बड़ा अनुग्रह है। शेष समस्त सम्पादन, प्रूफ शोधनादि कार्य मेरे स्थायी सहयोगी पं. हीरालालजी शास्त्री व पं. फूलचन्द्रजी शास्त्रीके निरन्तर साहाय्यसे हुआ है, जिसके लिये मैं उन सबका बहुत कृतज्ञ हूं। यदि इस कृतिमें कुछ अछाई व सौन्दर्य हो तो वह सब इसी सहयोगका ही सुफल है।

Figure II-4A. Excerpt from the preface of the 1939 Edition of Satprarupana (see Figures 4B and C) signed (November 1, 1939) by Professor Hiralal Jain.

श्री भगवत्-पुष्पदन्त-भूतबलि-प्रणीतः

षट्खंडागमः

श्रीवीरसेनाचार्य-विरचित-धवला-टीका-समन्वितः ।

तस्य

प्रथम-खंडे जीवस्थाने

हिन्दीभाषानुवाद-तुलनात्मकटिप्पण-प्रस्तावनानेकपरिशिष्टैः संपादिता

सत्प्ररूपणा १

सम्पादकः

अमरावतीस्थ-किंग-एडवर्ड-कालेज-संस्कृताध्यापकः एम्. ए., एल्. एल्. बी., इत्युपाधिधारी

हीरालालो जैनः

सहसम्पादकौ

पं. फूलचन्द्रः सिद्धान्तशास्त्री * **पं. हीरालालः सिद्धान्तशास्त्री, न्यायतीर्थः**

संशोधने सहायकौ

व्या. वा., सा. सू., पं. देवकीनन्दनः सिद्धान्तशास्त्री * डा. नेमिनाथ-तनय-आदिनाथः उपाध्यय: एम्. ए., डी. लिट्.

प्रकाशकः

श्रीमन्त सेठ लक्ष्मीचन्द्र शिताबराय

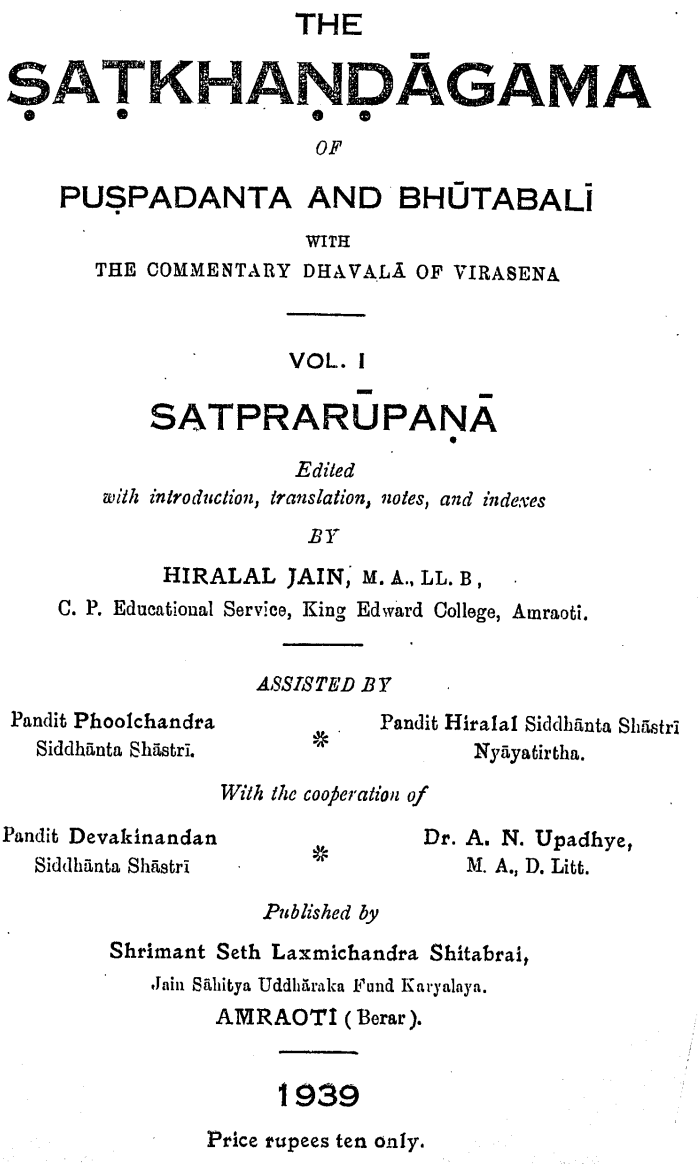
जैन-साहित्योद्धारक-फंड-कार्यालयः

अमरावती (बरार)

वि. सं. १९९६] वीर-निर्वाण-संवत् २४६५ ई. स. १९३९

मूल्यं रूप्यक-दशकम्

Figure II-4B. The Hindi inside-cover page of the first edition of Satprarupana part of Shatkhandagam published in 1939.



THE

ṢAṬKHAṆḌĀGAMA

OF

PUṢPADANTA AND BHŪTABALĪ

WITH

THE COMMENTARY DHAVALĀ OF VIRASENA

VOL. I

SATPRARŪPAṆĀ

Edited

with introduction, translation, notes, and indexes

BY

HIRALAL JAIN, M. A., LL. B,

C. P. Educational Service, King Edward College, Amraoti.

ASSISTED BY

Pandit Phoolchandra Siddhānta Shāstrī. ❋ Pandit Hiralal Siddhānta Shāstrī Nyāyatirtha.

With the cooperation of

Pandit Devakinandan Siddhānta Shāstrī ❋ Dr. A. N. Upadhye, M. A., D. Litt.

Published by

Shrimant Seth Laxmichandra Shitabrai,

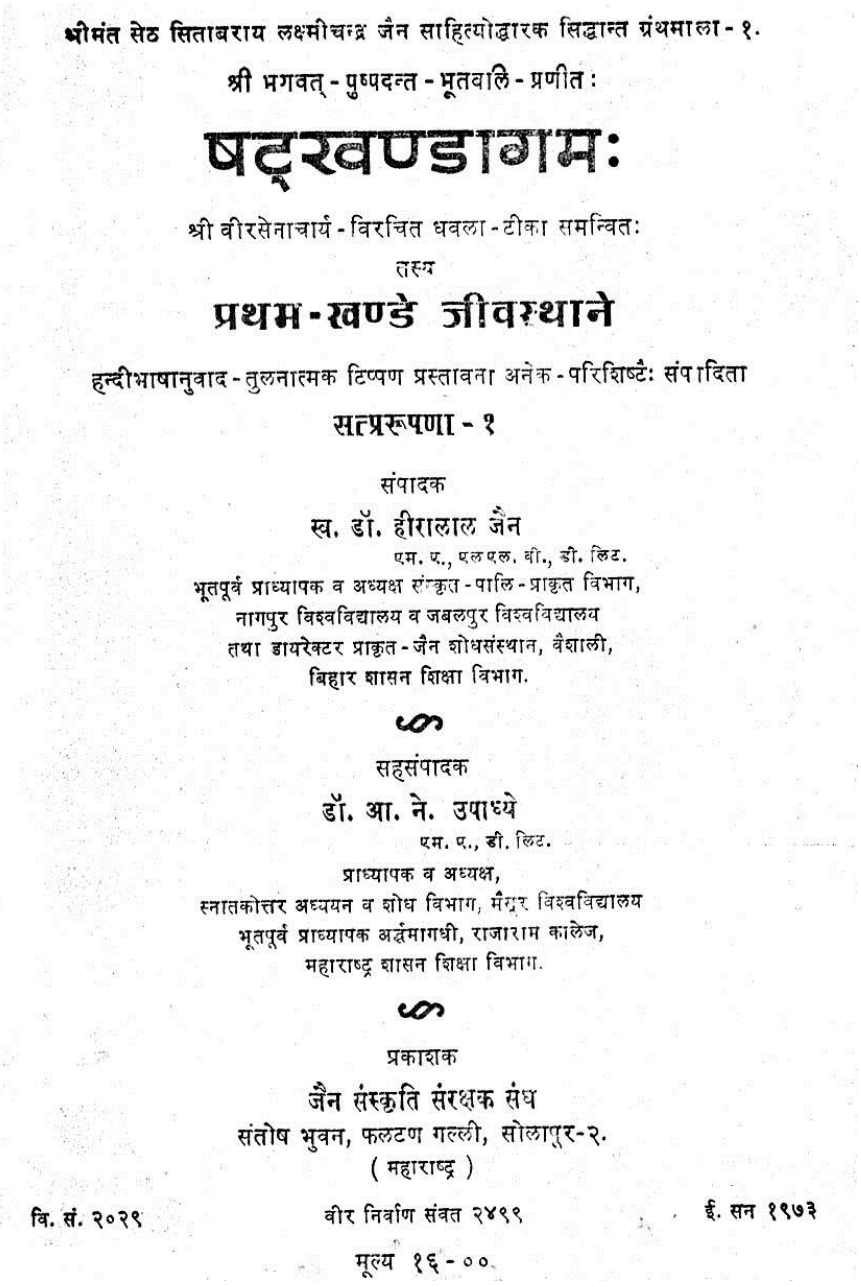
Jain Sāhitya Uddhāraka Fund Karyalaya.

AMRAOTĪ (Berar).

1939

Price rupees ten only.

Figure II-4C. The inside-cover page in English of the first edition of Satprarupana part of Shatkhandagam published in 1939. The dust-jacket contains only the name of the Professor as the Editor.


श्रीमंत सेठ सितावराय लक्ष्मीचन्द्र जैन साहित्योद्धारक सिद्धान्त ग्रंथमाला - १.

श्री भगवत् - पुष्पदन्त - भूतबलि - प्रणीत :

षट्खण्डागमः

श्री वीरसेनाचार्य - विरचित धवला - टीका समन्वितः

तस्य

प्रथम - खण्डे जीवस्थाने

हिन्दीभाषानुवाद - तुलनात्मक टिप्पण प्रस्तावना अनेक - परिशिष्टैः संपादिता

सत्प्ररूपणा - १

संपादक

ख. डॉ. हीरालाल जैन

एम. ए., एल एल. बी., डी. लिट.

भूतपूर्व प्राध्यापक व अध्यक्ष संस्कृत - पालि - प्राकृत विभाग,

नागपुर विश्वविद्यालय व जबलपुर विश्वविद्यालय

तथा डायरेक्टर प्राकृत - जैन शोधसंस्थान, वैशाली,

बिहार शासन शिक्षा विभाग.

सहसंपादक

डॉ. आ. ने. उपाध्ये

एम. ए., डी. लिट.

प्राध्यापक व अध्यक्ष,

स्नातकोत्तर अध्ययन व शोध विभाग, मैसूर विश्वविद्यालय

भूतपूर्व प्राध्यापक अर्द्धमागधी, राजाराम कालेज,

महाराष्ट्र शासन शिक्षा विभाग.

प्रकाशक

जैन संस्कृति संरक्षक संघ

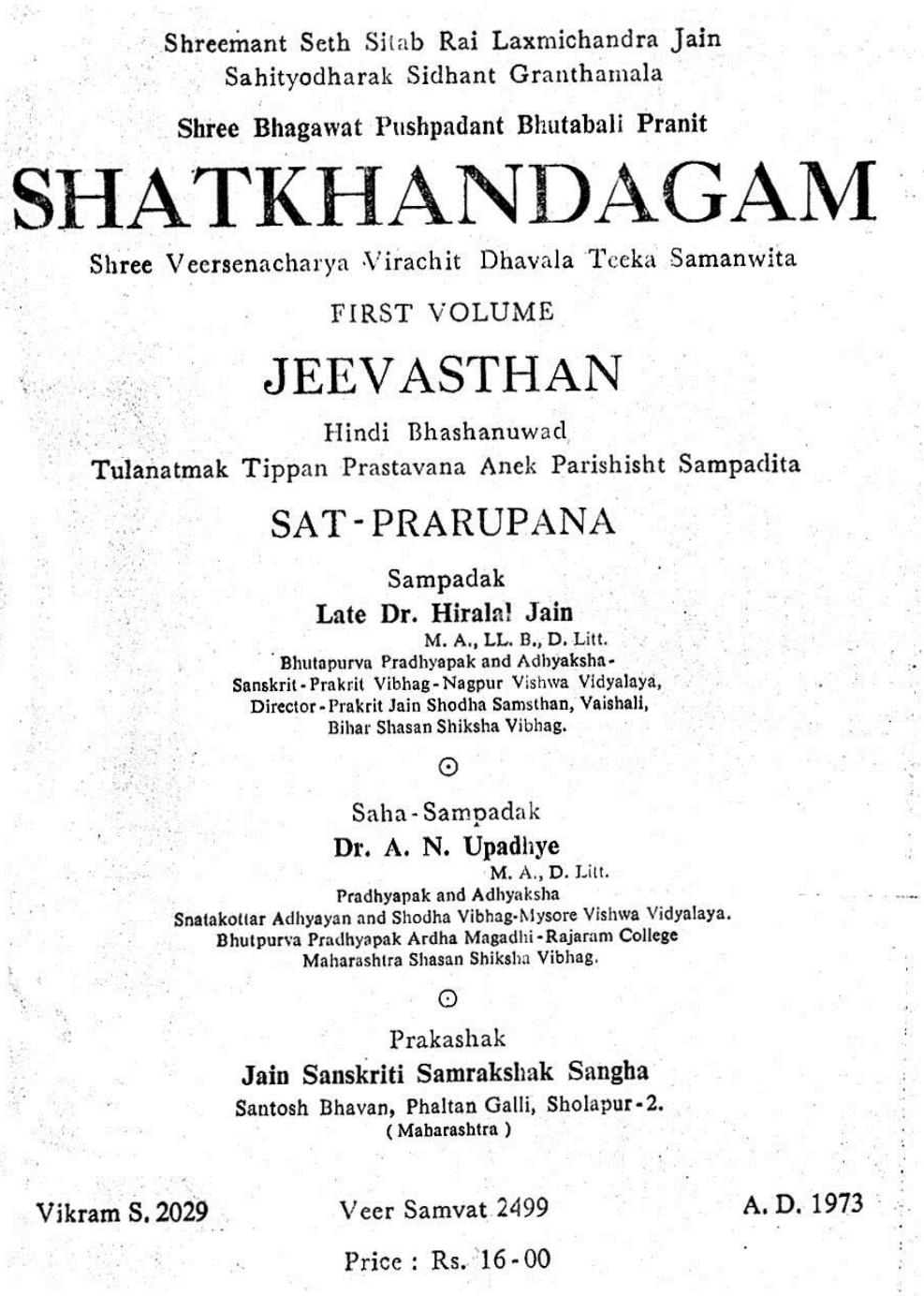
संतोष भुवन, फलटण गल्ली, सोलापूर-२.

(महाराष्ट्र)

वि. सं. २०२९ वीर निर्वाण संवत २४९९ ई. सन १९७३

मूल्य १६ - ००

Figure II-4D. The Inside cover page in Hindi from the 1973 reprint of Volume I. Note that names of earlier coeditors (Figure II-4B) are removed and A. N. Upadhye is included as "saha-sampadak."


Shreemant Seth Sitab Rai Laxmichandra Jain
Sahityodharak Sidhant Granthamala

Shree Bhagawat Pushpadant Bhutabali Pranit

SHATKHANDAGAM

Shree Veersenacharya Virachit Dhavala Teeka Samanwita

FIRST VOLUME

JEEVASTHAN

Hindi Bhashanuwad

Tulanatmak Tippan Prastavana Anek Parishisht Sampadita

SAT-PRARUPANA

Sampadak

Late Dr. Hiralal Jain

M. A., LL. B., D. Litt.

Bhutapurva Pradhyapak and Adhyaksha-
Sanskrit-Prakrit Vibhag-Nagpur Vishwa Vidyalaya,
Director-Prakrit Jain Shodha Samsthan, Vaishali,
Bihar Shasan Shiksha Vibhag.

⊙

Saha-Sampadak

Dr. A. N. Upadhye

M. A., D. Litt.

Pradhyapak and Adhyaksha
Snatakottar Adhyayan and Shodha Vibhag-Mysore Vishwa Vidyalaya.
Bhutpurva Pradhyapak Ardha Magadhi-Rajaram College
Maharashtra Shasan Shiksha Vibhag.

⊙

Prakashak

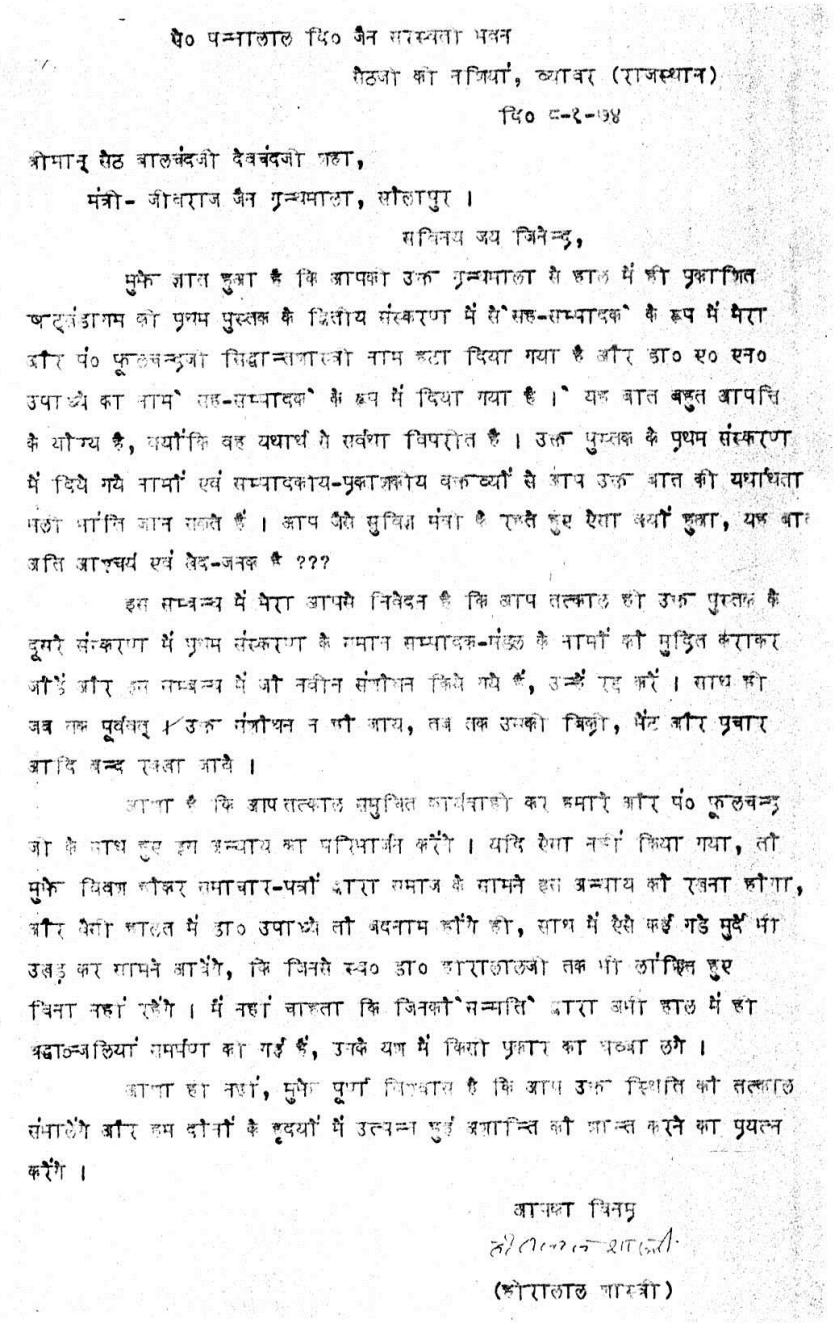
Jain Sanskriti Samrakshak Sangha

Santosh Bhavan, Phaltan Galli, Sholapur-2.
(Maharashtra)

Vikram S. 2029 Veer Samvat 2499 A. D. 1973

Price : Rs. 16-00

Figure II-4E. The Inside cover page in English from the 1973 reprint of Volume I. Note that the names of earlier coeditors (Figure II-4C) are removed and A. N. Upadhye is included as "saha-sampadak" (coeditor). The third edition contains only the name of Pandit Phool Chandra.



सेठ पन्नालाल दि० जैन सरस्वती भवन

सेठजी की नसियां, ब्यावर (राजस्थान)

दि० ८-९-७४

श्रीमान् सेठ बालचंदजी देवचंदजी गहा,

मंत्री- जीवराज जैन ग्रन्थमाला, सोलापुर ।

सविनय जय जिनेन्द्र,

मुझे ज्ञात हुआ है कि आपकी उक्त ग्रन्थमाला से हाल में ही प्रकाशित षट्खंडागम की प्रथम पुस्तक के द्वितीय संस्करण में से 'सह-सम्पादक' के रूप में मेरा और पं० फूलचन्द्रजी सिद्धान्तशास्त्री नाम हटा दिया गया है और डा० ए० एन० उपाध्ये का नाम 'सह-सम्पादक' के रूप में दिया गया है ।' यह बात बहुत आपत्ति के योग्य है, क्योंकि वह यथार्थ से सर्वथा विपरीत है । उक्त पुस्तक के प्रथम संस्करण में दिये गये नामों एवं सम्पादकीय-प्रकाशकीय वक्तव्यों से आप उक्त बात की यथार्थता भली भांति जान सकते हैं । आप जैसे सुविज्ञ मंत्री के रहते हुए ऐसा क्यों हुआ, यह बात अति आश्चर्य एवं खेद-जनक है ???

इस सम्बन्ध में मेरा आपसे निवेदन है कि आप तत्काल ही उक्त पुस्तक के दूसरे संस्करण में प्रथम संस्करण के समान सम्पादक-मंडल के नामों को मुद्रित कराकर जोड़ें और इस सम्बन्ध में जो नवीन संशोधन किये गये हैं, उन्हें रद्द करें । साथ ही जब तक पूर्ववत् उक्त संशोधन न हो जाय, तब तक उसकी बिक्री, भेंट और प्रचार आदि बन्द रखा जावे ।

आशा है कि आप तत्काल समुचित कार्यवाही कर हमारे और पं० फूलचन्द्र जी के साथ हुए इस अन्याय का परिमार्जन करेंगे । यदि ऐसा नहीं किया गया, तो मुझे विवश होकर समाचार-पत्रों द्वारा समाज के सामने इस अन्याय को रखना होगा, और ऐसी हालत में डा० उपाध्ये तो बदनाम होंगे ही, साथ में ऐसे कई गड़े मुर्दे भी उखड़ कर सामने आवेंगे, कि जिनसे स्व० डा० हीरालालजी तक भी लांछित हुए बिना नहीं रहेंगे । मैं नहीं चाहता कि जिनको 'सम्मति' द्वारा अभी हाल में ही श्रद्धाञ्जलियां समर्पण की गई हैं, उनके यश में किसी प्रकार का धब्बा लगे ।

आशा है नहीं, मुझे पूर्ण विश्वास है कि आप उक्त स्थिति को तत्काल संभालेंगे और हम दोनों के हृदयों में उत्पन्न हुई अशान्ति को शान्त करने का प्रयत्न करेंगे ।

आपका विनम्र

(हीरालाल शास्त्री)

Figure 4F. The letter of protest from Kakka to the publisher for the misrepresented credits in the 1973 reprint of Satprarupana (as in Figures 4D and E).

Few weeks after the celebration in November 1939, at the insistence of his friends and relatives, Kakka took back the resignation. Professor had promised that the problem and discrepancies about the editorial credits would be resolved in the future volumes. The publication schedule progressed rapidly. The second volume was published within a year. A total of five volumes had appeared by 1943 with Kakka still as Sah-sampadak (coeditor) on the Hindi cover and under the "assisted by" on the English cover. Seeing that the problem of the credits is not going to be resolved Kakka decided to leave Amraoti in 1943. His name did not appear on the sixth volume which he left as draft of the churni (appendices) for Jeevattan text in the first five. In the middle of the economic turmoil of the Second World War Kakka sold his Amraoti house at a loss and returned to Ujjain.

Apparent equanimity of Panditji in the whole episode is betrayed by the fact that he had already left in 1942. At the encouragement of Kakka, Bal Chand Jain had joined in the effort by the end of 1942. They were personal friends and both were born in the neighboring villages 4 miles apart. Bal Chand took over the responsibilities for the work from 1944. By 1958 the entire Shatkhandagam legacy of Dharsen, Pushpdant and Bhutbali with The Dhavla interpretation by Virsen and Jinsen was in print in sixteen volumes.

As also summarized in Table II-5, all the other Dhavlas were also translated and published between 1955 and 1975. Panditji with Kailash Chandra Jain and Mahendra Kumar Jain completed Jai Dhavla that was initiated by Kakka in 1946. After 14 years of work Kakka published the Parikarm Prabhat Tika. Several reprints and abridged versions of these works have appeared over the years without the acknowledgement of the original effort.

II-24. Basis of the Discord in the Teamwork

.. to be damned to argue the same questions over and over and over and ..

- J. P. Sartre's characterization of Hell.

In 1938 Kakka had handed over the completed pandulipi of Satprarupana to the Uddharak Fund with the *greed and expectatgion* that the collective and cooperative effort would yield a definitive work in a shorter period. In the back of his mind he had also considered the vicinity of Vardha to Amraoti, which was a center for Gandhian thought and the Non-cooperation movement. By mid-thirties he had started using hand-spun Khadi cloth and wore non-leather shoes.

As a full-time employee of the British Government at the King Edward College in Amraoti, Professor did his days work for a regular salary. In the afternoons and evenings the three colleagues sat down to review the daily progress. Of course, this was very inconvenient for Kakka because he had already put in 12-15 hours by then. With some grumbling Panditji accepted Kakka's work-schedule with rest in the afternoon. In return Kakka accepted Panditji's habit of chewing tobacco.

Rapid publication of the five volumes of Jeevatthan (over 2000 printed pages) during 1939 to 43 was possible because the content was already verified in terms of the linguistic and grammatical rules of ancient Prakrit. The text was laid down in well organized steps. Before coming to Amraoti, Kakka had also collected at least some of the background material and compiled it in a pandulipi form. There was unanimity about the objective.

The materials in hand had to be re-verified and integrated with other sources, and with inputs from others. Apparently, the individual efforts of the group complemented.

The press-copies of the pandulipis (still preserved) show that Kakka did more than 90% of the work for the first two volumes, and over 60% for the next three. Kakka's part required the grammar and Nay-based interpretation of the Prakrit material in the context of the secondary sources. It meant, among other things, aligning the syntax and comparison of the copies to spot missing parts. The language of the comments and notes had to be aligned with the derived later works including *Tilloypannati*, *Gommatsaar* and *Panchsangrah*.

Use and abuse of Anglicization and etymology

Upadhye helped with rules of etymology to set the historical context for Jeevatthan. This method has limitations. Over the last 2500 years the pandulipi text had undergone major transfers before the current form was scribed (ca. 1065) in hale-Kannad, presumably from a copy of Dhavala. It is not unlikely that some of the scribes over the centuries did not understand the content of the text, and possibly the language which is Prakrit and Sanskrit of different periods. One can only imagine the effects such limitations on the final product. For example, one of the changes of interest is the difference between itthi and drashti (as mentioned above. Similarly the word *atm* for individual identity mutated to *atma* that is varyingly interpreted as soul or *param-atma* as cosmic soul. Similar distortions of gender, negation and other nuances in compound words and word endings are introduced by misplaced prefixes and suffixes.

It is not trivial to get around such limitations to assign etymological origins to words that have passed through several

renditions of written and spoken forms of the texts of different origins. Both, the Professor and Upadhye do not appear to be aware of such concerns. Traditionally such concerns are resolved on the basis of the context and intent of the content in relation to the extrapolations to more recent derived literature. Both Professor and Upadhye did not have such understanding, and they apparently believed that Prakrits were distorted forms of Sanskrit.

Other restrictions also apply. Ability to speak a language fluently (polyglots or multilingual) does not confer the ability to understand the structure of the background phenomena and concept as a systematic process. A good driver does not have to know much about the automobile engine. On the other hand deeper purpose of language communication is to bring out a close relation between the foreground activities (symbol and word representation) and the background for thought to restore the content, context, and meaning.

Professor provided the input about the historical context for the presentation in the European scholarly format. With his flare for rhetoric, during his short tenure Panditji provided grammatical and linguistic nuances for the Sanskrit notes. Panditji and Devaki Nandan also verified the relationships to derived sources. The other name on the title page (Figure II-4 B) is A. N. Upadhye, an expert on the etymology of the Prakrit terms. He was consulted for the first time for the first 200 pages at the proof stage. The text had to be read to him because he did not know the Nagari script. Apparently this was still the case 40 years later. Recall that etymology is about the linguistic roots and derivatives. It is certainly not about the precision of usage and meaning. Kakka's expertise and background remained indispensable for the

Prakrit usage and nuances. The Abhidhan Rajendra Kosh used for this work was his personal copy purchased with the family gold.

Kaam mera, naam tera: **Discord on Intellectual-credit**

With the key insight published in Jain Siddhat Bhaskar and the Jeevatthan pandulipis in hand, by the end of 1938 the role of Kakka as a scholar was well established, or at least he thought so. With his new colleagues in Amraoti there was no discord on the objective of bringing out a definitive work. In general, recognizing the nonviolence sensitivities explicit care was taken against the use of the animal parts at all stage of the production of the book. There were some issues of sensibilities, such as some of the Western-educated friends of Professor occasionally walked into the work place with their shoes on.

Well-wishes of the Jain community after the publication of the first volume meant more funds. Intellectual help also came from other sources, notably Nathuram Premi. By the time third volume was published, even the trustees of Moodbidri temple changed their minds. They provided access to the original transcribed copy in their possession. During 1942-43 and several times in later years Kakka spent months in Moodbidri to check the text against the original pandulipi with cordial help from the scholars at Moodbidri.

In intellectual matters freedom of thought is fundamental supported by a balance and sensitivity in personal as well as scholarly and intellectual matters. It is not easy to maintain such independence in an environment of patronage and over-inflated fragile egos. Otherwise, a constructive discussion and relationship turns destructive. Proper credit is a form of critical recognition of a scholar's responsibility for the originality, quality and integrity

of the work. Sometimes trappings of power that go with the social recognition take the upper hand. After all, the name in print helps in claiming degrees and jobs. It attracts unfair and unworthy claims. A strict and austere code of conduct of monks was possibly necessitated by such concerns. But it also keeps away many others who could contribute. Major works of this magnitude are also beyond the abilities of a single person, including a monk. Even now many monks who have delved into the Shatkhandagam material credit Kakka for the breakthrough that led to the deeper understanding of the tradition. Over the years Kakka taught some of this material and its nuances to several aspiring monks.

The first major crack in the relations of Kakka with Professor developed on the issue of credits on the printed version of Satprarupana (Figure II-4A, B and C). Not only the agreement reached a few months before was not honored, the problem was also not resolved later. Kakka left Amraoti as soon as the Jeevatthan part in the first six volumes of Shatkhandagam was complete. Based on the articles published at that time in defense of his resignation, Kakka clearly stated that not only the behavior but also the accusations and arguments of Professor are incongruent with facts within his own statements in the introduction. Kakka charged that the Professor's conduct amounted to a blatant breach of agreement if not outright dishonesty - even though Professor had a degree in Law.

"A breach of collegiality is unacceptable" Kakka wrote in a series of articles to the Jain community in defense of his decision to leave the Dhavla work incomplete. He wrote: "Even though Professor has a L. L. B. degree in Law, his behavior during the whole episode is fundamentally contradictory (*mithya*). It is also incongruent with *nyay* - a term also used for evidence-based

justice." At one stage some of the judicial friends of Professor came to "pressure" Kakka. Infuriated by that event, Kakka took a somewhat lower blow. In an article examining the concept of editorship, intellectual contribution, and the responsibility that goes with each, Kakka pointed out that during the thirties Professor "could not make progress on the Dhavla work based on his own abilities." Elsewhere Kakka concluded that certainly based on the quality and contributions of his own work Professor is not worthy of any intellectual credit. The letters that I found from Professor do not dispute any of the facts. He only asserts his credit was as a Mantri (secretary) and Managing Editor appointed by the Uddharak Fund. Sixty years later, I heard the same party-line from a descendent of the founder of the Fund.

It is noteworthy that Professor's style of legal briefs, a dialectic based on a polarized point of view, is apparent in most of his writings, ranging from scribbled notes to the more formal presentations. In polarizing a dialectic one presents only the facts that suit ones own purpose or point of view.

By some accounts, even decades later, *the practice of glorified editorship* initiated by Professor continues to have a detrimental effect on managing intellectual creativity. The model of claiming underserved credit, and glorification of the administrative responsibilities as an editor, has had a lasting detrimental effect on the originality in creative works. Creativity suffers if the credit and responsibility are separated to serve the interests of administrators, managers, publishers and sponsors. Matters are made worse if the Forward writers, peer-reviewers, and the book-review process can not deal even with the known faults in the system.

Back as freelance

Recall that both Kakka and Panditji did not know English. During the celebration when the printed version was brought out for the first time for public viewing, through their friends both learnt about the discrepancies on the cover pages of the 1939 printing (Figure II-4B and C). The work had progressed with the agreement that the three colleagues will be *Sah-sampadak* (equal co-editors). For them the term *sah-sampadak* has the same explicit meaning as *sah-paathi* (peers or pupils of the same grade in school). By all accounts Kakka did not take this breach by Professor lightly, especially when the promise to rectify the situation was not followed up even with the publication of the next four volumes. Kakka was not the one to dwell on lingering unpleasant issues underlying the unjustified *kaam mera, naam tera* (my-work and your-name) treatment through which credit is usurped unfairly. The dispute was never settled, not even after the issue was aired out in press. In spite of considerable public discussion the credit-grab and influence paddling continued for quite some time. By other accounts also, Professor used positions of power as manager or managing editor to take credit for the work of others. Those who dissented were not to be published by certain influential publishing houses.

For sticking to the issue of intellectual credit for his work, Kakka paid heavy price during the next 20 years. These were turbulent times. Recall that in 1944, the Second World War was in full rage. Jobs were scarce. Economic situation was precarious for all. It remained so for our family for the next fifteen years. It is not clear if Kakka ever got over the pain. He never mentioned it to any of his children. I remember hearing from both of my parents: *Do not scrape the bottom of the cooking pot from which you serve. This*

way not only you avoid the grit and burnt food, but the guests will also not know how much or little you have.

Burnt by the experience with the Uddharak Fund, and not to be cheated twice, Kaka decided to never work for an institution. He did all his later work free-lance. This did not earn him institutional support or recognition. He benefitted from many individuals who were willing to sponsor his work for its scholarship - a tribute to the tradition that scholarly work continues to be sponsored by individuals.

Certainly, my mother had not forgotten the Amraoti incidence even until her death in 1988. In 1987 she politely declined any connection whatsoever with a Foundation set up in Jabalpur in the name of Professor. In spite of his success and recognition a managing editor in the later years, Professor was not known for his integrity or scholarship in the Agam works.

The problem of credit made worse in the reprint. In the 1973 reprint (Figure II-4D and E) of Satprarupana Professor did not honor his commitment. The problem is made worse in this reprint prepared by Professor just before his death. The reprint removed the names of Kakka or Panditji. Other attempts to gloss over the facts of the original edition are also apparent in this reprint published with minor corrections based on comparisons with the original Moodbidri pandulipi. It is curious that in the second reprint A. N. Upadhye appears as a co-editor. This is even more puzzling because Kakka had seen him only a few months before in relation to the work on this reprint edition. After a protest letter from Kakka (Figure II-4F) the original inside-cover of volume II is published in the reprint of the second volume. The original discrepancies persisted in the English version of the cover and the dust jacket.

There is no doubt that Professor managed the Fund to the completion of its original mission. It appears even in the reprint Professor promoted the legal interpretation of intellectual work as "work for payment" or “work for hire.” The fund had paid for the activities which for most part did not produce any useful results for 4 years. The publication work moved fast only after Kakka joined in the effort. Also the work progressed after the plan outlined by the Fund or its manager was abandoned. Myths to perpetuate Professor's contributions continued in a publication to celebrate his 100th birth anniversary. Such attempts to assign unwarranted and hijacked credits for the intellectual work distract potential scholars from an appreciation of the intellectual and creative input needed to carry out a significant body of work to create value.

Exploitation and influence peddling is affront to the creative process. Looking through the life-long contributions of all the players, as summarized in the biographical sketches at the end of this volume, it is apparent that the Professor's contributions have been mostly as a manager and advisor to facilitate the book production process. Managing editor is an appropriate characterization for such a role. Outside such roles, the Professor's main work is about setting historical context through compilation and comparisons of inscriptions.

The issue of credit is part of what is now called the intellectual property. For a cursory reader, the name on the cover page is the only connection to the effort behind the product. Such credit means responsibility and priority that goes with the work. Without intellectual honesty and integrity, the drive and motivation for the creative processes would dry up. Current situation on such issues in India must change at all levels and all venues. Most countries now explicitly protect the intellectual

property of creator, inventor, writer, discoverer, or even singer and song writers. It is a legal protection for the creators of original work from unscrupulous plagiarizers and the deep pockets of trusts, publishers, and their agents who share no liabilities resulting from the content.

The scholarly tradition is about open inquiry to examine possibilities, entertain viable points of views, and then leave room for doubt. Administrators of the community funds and social institutions could also learn from the accords and discords outlined above. Many of the problems are now routinely avoided through written contracts to safeguard credits. Remarkably, the modern standards for apportioning credits are not very different than the traditional methods going back centuries, i.e. to acknowledge sources, support, and other contributions while taking responsibility for the creative work as an author or even as a scribe.

Proliferation of what can only be called as 'fakes'. Publication of Dhavla did not cause major cracks within the lay and the intellectual community. Enthusiasm about bringing out the heritage also unleashed a flurry of not-so-original works. Integrity of the intellectual processes depends on the independent peer review process and a strict code of conduct of the author, sponsor and the publisher. Forces of the market place backed by deep-pocket only encourage influence paddling.

As the old scholars die out, new scholars fill the gap. Their work depends on individual and public sponsorships. Government of India also has 'projects' whose motives are not clear. It may preserve the pandulipid legacy of words for somewhat longer, but certainly it is not to revitalize the tradition

of thought. This kind of work is unlikely to be sustained by the market forces alone.

The quality of a product suffers when people resort to unfair practices. It is now generally recognized that the checks and balances on the standards of scholarship are not functional in India. Breaches are blatant not only in theses and dissertations for the university degrees, but also in reprinted works that fail to acknowledge the original work. Such efforts may be sustained by charity with blind-faith. Can it create value for a viable tradition of thought?

Sometimes nothing is better than nonsense. Support for unworthy (*kupatr*) causes inflicts more damage than possible good it might do. Pressure on publishers and scholars supported by charities, under the guise of spreading the knowledge, has brought on a flurry of publications of dubious value. *To spread their gospel* some groups have resorted to providing cheap and free literature. Faced with space limitation and deteriorating condition of their holdings some temple libraries have removed the older works by newer books. It amounts to nothing less than book burning!

In closing, effective mechanisms are needed to identify and promote viable methods, insights, and interpretations of thought to maintain its viability. In such matters the market forces may be more preferable than a proliferation of hidden agendas supported by public or private charity. On a recent visit to the English countryside, I was told by the guide to have a good look at a church. Then he said, *this was the last new church building constructed in England, and that was in the late 17th century.* I am sure he was referring to other better ways of spending money and effort for the public good.

II-25. Significance of the Dhavla

True knowledge thrives best in glass house, where everyone can look in. When the windows are blacked out, as in war, the weeds take over. When secrecy muffles criticism, charlatans and cranks flourish.

-Max Perutz in *Is Science Necessary?*

The Moodbidri pandulipi is the oldest known complete copy of the words from the Arihant tradition of thought. To retain the integrity of the tradition, the Dhavla tika acknowledges the sources in their original Prakrit or Sanskrit form. It discusses parallel developments. It has been a model for learning and scholarship ever since it was completed in 827 CE. Relevant features include:

1. Dhavla is a review and compendium of the seven centuries of work set in motion by Shatkhandagam. It is a 'shining' example of the knowledge transfer process from the tradition of monks and scholars who came to be dependent on written material. Such a reliance of the technology of written material brought new people into the fold, and freed energies for deeper contemplation.

2. It is a remarkable work that sets a very high standard. It remains a viable model for scholarly work. It reviews, critically examines, integrates, and illustrates with hypothetical examples. It reaches to the core of the thoughts of the period. Although it rarely references specific work from other traditions, it quotes and examines 368 different prior points-of-views. Yet the text hardly mentions personalities or specifics of contemporary life in general.

3. Appendices (*Chulica*) integrate, tabulate, summarize, and cross-correlate information that is implicit in the matrix of Shatkhandagam. They elaborate on specific issues.

4. Dhavla and derived texts have been and still used as advanced aids for training of scholars. The text weaves its way through a variety of simple and complex concerns with questions and answers. It advises the pupils about trivial and not-so-trivial issues which they might encounter during their discussions. Consistent with the anugam approach, it prepares people to reason with reality-based arguments, with making a judgment about other faiths.

5. The material is secular and inspiring. Those who wish to look for the divine insights or factual details are likely to be disappointed. Examples are mostly hypothetical, and the text occasionally slides into hyperbole and mild rhetoric. Overall it stays clear of the later-day ideas about omniscience, rituals, and purification of soul.

6. Strength of Dhavla is in the use of language for reality-based reasoning. Yet elaboration of syad and anekant is marginal. Use of quantitative concepts and operations is probably from the 200-500 CE period. It often ignores concerns about definitions and continuity of thought.

Presumably because of comprehensiveness of Dhavla the terse systematic approach of Shatkhandagam is somewhat compromised. Personally, I find the *pad* structure of Shatkhandagam to be a far more effective method (device) for learning to reason.

I believe that the Hindi translation of the Prakrit pad of Shatkhandagam is unduly influenced by the later developments based on the Dhavla and Gommat Saar. Consistency with the later material establishes the historical precedence as well as the continuity of the thought process. It shows that development of thought comes from a deeper understanding of the concerns and methods. I also believe that the later texts are unduly influenced

by the Sanskritized-approximations of certain terms. In such cases the possibility exists that attempted sanitization of thought through language may have "thrown the baby with the bath water." I believe that it is necessary to keep focus on the fact that the flow of thoughts goes in the direction of ancient to modern, and from mind to language, but not the other way. Only a determined reader can focus on the content with the hope that nuances of the original thought process appear within grasp.

II-26. Jeev Samas Gatha

Pick your fights carefully.
Do not try to defend indefensible.

- Unknown

Origin of the Jeev Samas Gatha is not established. Not even an authoritative text by that name is available. Jeev Samas Gatha(s) are mentioned in several ancient sources. A complete compilation of Jeev Samas Gatha is not available. The content is apparently scattered in derived literature. The largest compilation (ca. 500 CE) of about 286 gatha under the subtitle of "Jeev Samas Gatha" is by Purv Bhrat Suri (see Jeev Samas Gatha on this site). Some of these gatha are also found in *Kamm-Payani Sangahani* by Shiv Sharm. Contents of Pannava-Sutt (Pragyapana Sutr) complied around 300c also bear remarkable resemblance to Shatkhandagam. These works are from the Shvetambar tradition, and neither mention Pushpdant and Bhutbali. It is intriguing to speculate if this text also comes from the Gatha tradition but entirely independent of Shatkhandagam.

The Meaning of Being

Tatvarth-sutr (literally translated as "Meaning of Being"- in *sutr* form) is from 300 CE. Its content is a terse summary of the key ideas for representation. It has been in continuous use with hundred of scholarly commentaries, and in English as *That Which Is* (Tatia, 1994). This text is a compendium of the key ideas that are elaborated in Jeevatthan. However it does not provide insight in to thought processes.

These compilations are not stand-alone works not do they provide a discernible context. Apparently these were compiled from scattered sources. A relationship of the Gatha to the 12th Ang can only be inferred because the Jeevatthan text (Volumes A-H). The term S*amas* refers to organization and categorization for the analytical search. In the context of *margana* it is for the reconciliation of the attributes and properties of beings (#A2). Thus the emphasis of Jeev Samas would be on the analytical reconciliation. In Jeevatthan the emphasis also includes the *gunasthan* states of augmented perception.

Gatha versus Katha: It is intriguing that the ancient Prakrit literature is a rich source of katha narratives that often conclude gatha in the narrative. According to the compiler (Shalivahan ca. 100 CE, also called Hal in the European versions) of *Sapt-Shati Gatha*, these seven hundred gatha (not in any particular order) were assembled from "hundreds of thousand" circulating at that time among the general public. Although he did not give a narrative for any of the gatha, from the content it is clear that the style and content of these gatha is remarkably similar to those found in the Katha compilations.

Story-telling or Katha narratives communicate experience and insights across the generational boundaries. The tradition probably goes back to the beginnings of the organized family and tribe. Katha-compilations in the written form began to appear in India after around 300 CE which coincides with the introduction and wider acceptance of the written medium. Such linear narratives are difficult to recall, and the details loose relevance with time and place. Therefore it is likely that the more ancient gatha forms continued as the device to summarize and recall the salient motifs that give structure to a narrative. The poetic Gatha

form works within the limitations imposed by language and metre. It limits the terms and constructs that can be used. Isolated Gatha also loose the thematic content. Thought process is also distorted, if not lost, in the fragmented material. Later scholars like Siddhsen and Aklank have made attempts to get around such limitations (See Nay on this site). Their success shows that we must not assume that we understand the idea let alone have a full picture.

Scholarly scrutiny of the Gatha material is a worthwhile goal. Certain insights are better preserved in such lyrical forms. Similarly aphorisms (*sutr* and *mantr*) also focus on motifs. Other inspiring relics and practices from the past need to recorded in modern forms for detailed examination on the basis of their own merits. Such condensed and coded messages may not invite new inputs, but they do encourage contemplation.

Uses of lyrical form. The term *gatha* refers to the lyrical descriptive form. It is precursor to more recent poetical (*gadd* or *gaddya*) forms. Lyrical forms also facilitate transfer of information. Apparently, the tradition of stringing together ideas and motifs in the form of gatha was in general use for the oral transmission of human experience. The gatha compilations in Prakrit thrived in the central, South and West India. These are also the regions where the groups displaced from the Patliputra region settled.

Dhavla mentions that the material taught by Dharsen was in apparently in gatha form. In the introduction (reproduced in this site in Volume J) to Shatkhandagam (Sumatibai Shaha, 1965) Kakka has shown that the *pad* (steps of text) form of Shatkhandagam has remarkable parallel in certain gatha of *Jeev Samas Gatha.* For example, except for some very small differences the first 10 gatha are clearly developed in the #A1-23 steps of

Shatkhandagam. Of the 286 gatha available now, only 170 appear to have been used in Shatkhandagam. On the other hand, there is considerable amount of material in Shatkhandagam that is not found in the available Jeev Samas Gatha. The flow of the content in Jeev Samas Gatha does not follow the flow of Shatkhandagam.

The lyrical *gatha* form is well suited for oral transmission. On the other hand, the pad form makes the material much more suited for learning from the written text and also for reasoning, discussion, and discourse. The pad form lends itself to teaching the steps necessary to develop a more precise understanding of the way arguments are developed. From this perspective, the overall organization of Shatkhandagam is based on modules of certain clearly defined attributes and criteria applied for the understanding of the states of perception, i.e. how we approach the unknown. Each module is based on algorithmic use of the same kinds of curiosity driven questions starting from what, where, when, how big, how many, and for how long. Resulting information provides a consistent outline of the concern. Such information can be amplified with comparisons with known happenings in a multivariate world. This structure is consistent with the Syad-anekant strategy: It reduces the level of doubt in stages through valid assertions while systematically scanning the complex universe for the similarities and differences to arrive at a deeper and consistent understanding that is likely to be tangible.

This is probably the most important intellectual contribution from the pre-Aryan India. It has withstood the test of time. It has helped in developing a reality-based code of conduct with the key assumption that all actions have consequences. Decisions in effects are the choice of consequences.

Such concerns and strategies also underlie modern methods of inquiry and understanding virtually at all levels of

complexity. It is systematic approach to a concern on the basis of defined generalizations, particulars, assumptions, and criteria. It does not resort to rationalizations or even explanations. It is an effective way to understand the phenomenal and deterministic worlds accessible through sensory inputs.

Possible origins of Jeev Samas Gatha. Available gatha collections have limitations that do not permit detailed scrutiny of the content. The medium of gatha and isolated aphorisms are not suited for self-study by the uninitiated. They do not build the thought process. At best gatha are like detailed notes or catalog of the specifics that make far more sense to the person who already knows the basis for the compilation. Otherwise these are just to remind of the prior experience. Considering such limitations, the original purpose of the rule-based gatha organization would have been to make the material readily available for memorization and recall for oral transmission without deeper understanding of the content.

Preservation and perseverance reconciled. It is also possible that the *pad* and the *gatha* forms may have the same origins but progressed along different trajectories for different audience. A possible scenario is that the both forms have their roots to the original group in Patliputr. The Gatha remained just so with the group that did not develop the thought further.

As the hard time fell, the focus of both the displaced groups shifted from growth and development to perseverance and preservation of the scattered legacy in their possession. It continued several centuries. It continued until Dharsen took the major step brought to fruition by Pushpdant and Bhutbali.

The other group out of Patliputr retained its legacy as such in the Gatha form. The geographical separation was also resulted

in schism on the issue of practice, but not the belief. The two groups never joined together again, although they seem to have had contacts through the conventions. The group that went West came to be known later as the Shvetambar sect, with Sthulbhadr as its leader after Bhadrbahu. In response to the changing condition is adapted to a different dress code for the monks. It formalized the rituals mediated by the priests. It encouraged belief in omniscience and miracles as form of faith. Such devices are useful for social coherence, a critical consideration in a region of India that was for 2000 years in the path of the marauding armies from the Northwest.

Slowly, the leadership of this group was divested from the monks. Often leaders at the places of worship (*bhattarak* and *mahant*) were Brahmins, who maintained the status quo with little credentials of scholarships. During his travels to India, even Huen-Seng noted the grip of such unsavory characters on the Buddhist places of worship in North India. In the stratified environment, the Shvetambar traditions placed ever more reliance on gatha and aphorisms for the occasional insights in their past.

The other group (***Mool Sangh***) that went South with Bhadrbahu retained the original practices. Probably it also thrived for several centuries. It came to be known as the Digambar sect because these monks remain unclothed and without possessions in the tradition of Mahaveer. The Mool Sangh also retained the practice of regular conventions, such as the one which sent Pushpdant and Bhutbali to Dharsen. The leadership of the group of monks came from their scholarship, and only for the purpose of the scholarship. Even to this day the leader is recognized as the Acharya or *the one who practices what he teaches.* With such codes of conduct the tradition established in Shravanbelgola focused on the integrity of knowledge.

Shravanbelgola as a major center of Prakrit learning for almost 15 centuries as that part of South India remained relatively undisturbed by armies or religious fundamentalism.

Looking back, it is remarkable that both the sects have preserved and maintained the material in their possession. Except for some "spins" on the historical facts, it is to the credit of both the groups that they retained the integrity of the tradition and practices in the face of great odds against survival. Based on the acrimony of the last century, it is also clear that time has come for accommodation and reconciliation. Both groups have more in common than the superficial differences.

To recapitulate, for its viability, sustainability and vibrancy shared knowledge relies on intellectual climate with wide ranging inputs. It also requires pluralistic modes of expression and retention with diverse range of interactions. The word legacy in the undiscovered pandulipi materials remains to be discovered.

Insight: Longer the time since the original telling, the more motivations creep into recounted tales. Everyday sheds a new light on the tale, and opens a different door for discussion and perception. Ultimately, through such interactions we learn to appreciate that many of our cherished notions about every problem having an "answer" are about the existence of the "best" choice among a set of courses of action. With such realizations the power of rational analysis emerges from growing collection of shattered illusions.

II-27. Uses of the Words from the Past

As the silversmith removes impurities from silver,
So does the wise man from himself
One by one, little by little, again and again.
Dhammpad

Spoken words survive only as traces of memories of interpretations preserved in the practices and traditions. Information and intellectual content preserved as written word is at the roots of civilization. Heritage of *pandulipis* are valuable to understand influences and concerns that lead to the formulation of ideas. They provide insights into the thought processes communicated through technologies of writing and arts. Modern digital technologies permit standard ways to preserve electronic copies of pandulipis for long time to come, if not for ever. Successful implementation of a strategy to make this possible is intricately tied to the roles of keepers, managers and owners, of this shared heritage.

The Jain thought is empirical, secular, and practice-based. It builds shared knowledge (***vangmay***) with a belief that humans understand and respond to their experience. Knowledge based on shared experience has lasting value because the external (***pratyakch***) evidence ascertains the validity (***praman***) of cognition of the object of investigation (***pramey***). Evidence based conclusions are tentative (***syad***). Alternatives and possibilities (***anekant***) emerge in different contexts. Since the past practices (***achar***) are associated with the future outcomes, a code of conduct based on shared experiences include the observable, testable, and relevant (***hetu)*** for the future outcome. Faith in ad hoc constructs is not testable and therefore it encourages reliance on non-existent,

contradictory, and inconsistent world views. This is the crux of the material already made available of this site.

Relevance of ancient works emerges with use

After the death of Mahaveer (599-527 BCE), his disciples under the leadership of Gautam and Saudharm compiled and assembled the thoughts in 14 parts (Angs). Since the last two Angs are a matter of personal experience, the descendent group (*Mool Sangh*) was entrusted with the oral transmission of the 12 ang to be preserved and developed with future experience. After 200 years the *Sangh* fragmented into at least two independent groups. The thought process also stagnated because none of the groups had adequate understanding of the entire material.

Whatever we know now about these angs is from the written material preserved after another 300 years when the writing technologies evolved. After 30 CE fragments of the orally communicated original work began to be collected and scribed. The work reassembled during the next 500 years is now generally known as the Jain *Agam*. There is disagreement about the integrity of the available Agam material. The Shvetamber tradition believes that the available Agam material from the first 11 Ang is reasonably complete. On the other hand, the Digamber scholars maintain that much if not all of the available Agam material has not retained its integrity, and thus the agam vangmay does not communicate the overall thought process or the way of reasoning. Based on my reading both of these assertions have merit and they are not mutually contradictory.

Hira Publications (www.Hira-pub.org) is dedicated to exploring the agam material. It is our hope that by bringing the Agam material in a modern form it is possible to find ways to

reconstruct the thought and reasoning processes. Our current focus is on the Nay and Jeevatthan components of ***itthivay***, the twelfth Ang. This clearly required departure from the literal translation because we do not have a good grasp of way in which language was used millennia ago. We have relied on interpretive translation where continuity of thought is critical. We believe that the continuity of thought in the current Jain *vangmay* can be reconstructed from the material reassembled from wide ranging sources that trace their origins to the fragments of the orally transmitted earlier material. For example about 100 Agam works assembled before 800 CE are available now in printed form. They show a remarkable consistency of the basic ideas, concepts, and ways of reasoning.

These printed works assembled from the ancient *pandulipi* pandulipi are a tribute to the scholarship of the last couple of centuries. The printed material is assembled from the hand written copies of the earlier material which may have come orally or from the ancient pandulipis. The tradition of multiple pandulipis certainly saved the content from extinction however one can not be absolutely sure about the integrity of the material. The pandulipis often also contain vachanika or interpretation. In many pandulipies the ancient material is often clearly distinguishable. However limited understanding of the tradition compromises the *vachanika* material from individuals.

A large number of ancient pandulipi pandulipis of different periods remain to be carefully examined and evaluated. Just as we do not know how much of the original material is not available now, an unknown fraction of the agam material and its subsequent interpretations also remains buried in the pandulipi material that is stored away. Some of my personal observations and speculations on the subject include:

a. **It is estimated that at the beginning of the 21st century as many as a million Jain pandulipis are available in over 5000 different collections.**
b. **The number of pandulipis in existence now may be about 20% of the total ever scribed. Based on the rate of deterioration and loss of the existing pandulipis it appears that over 5 million pandulipis may have already disappeared. At this rate about half of the pandulipis in existence now are likely to be lost within the 100 years.**
c. **My estimate is that the total number of the original Agam works is few a hundred. As far as I know the original pandulipis of any of the Agam works are not available now. Most of the available works are copies of copies.**
d. **Much of the Agam work is cited and cross-referenced in the later works. Such references also suggest that scores of Agam works are not be available now.**
e. **Printed Agam works have been reassembled by comparing copies (*pandulipies*) scribed during the last 500 years. These copies not only refer to other works but also contain text fragments of more ancient origins interspersed with commentaries and elaborations (*vachna, tika, bhasya, vyakhya*).**

Methods used to develop this survey

The current state of the Jain ***pandulipies*** found in many holdings is a cause for concern. Even if the material is preserved under best of conditions, it rarely made available to scholars. Awareness of this problem has significantly increased during the

last century. My recent visit to several collections and libraries in India suggests that for a variety of reasons the problem of preservation is likely to become more serious in the future if not already so. Besides the loss of scholarship and interest, many of the trusts which were set up to take care of the collections have fallen on hard times. The situation in the Government and University collections is equally dreadful and the physical neglect is even more apparent.

Over a period of the last 30 years I have talked to several hundred people entrusted with the care of pandulipis and elaboration of their content. Observations in this article are based on my personal conversations and visits with the care-takers of several hundred pandulipi collections in museums, archives, universities, institutes, temples, and personal holdings. The major conclusions in this draft are based on a month long trip in February 2007 to over 20 libraries where I talked with more than 50 individuals. Admittedly this is not a systematic scientific study. However my observations are independently and qualitatively corroborated through informal contacts. Quantitative observations are my guess-estimates. My observations and thoughts in this article are built on their candid responses that are invariably off the record.

Part I: Reasons to Preserve the Written Heritage

The tradition of making multiple hand-written copies of a work is possibly the single most important factor that preserved not only the ancient written material but also assured the continuity of Jain thought, practice, and the community. These pandulipis were placed in different locations to be shared by the community at large. This egalitarian practice facilitated wider scrutiny of the

information and thought for the future use and development. In this broad context the ancient pandulipis serve a variety of purposes:

(1) It is the documented evidence of the survival, preservation, continuity, and growth of thought that goes back 5000 years but still followed by a thriving Jain community.

(2) The ancient text contains words and citations of ancient origins. It is likely that some of the Prakrit Gatha and word constructs may date back to the Mool Sangh or earlier.

(3) The pandulipi material has helped in establishing historicity of persons and events. The archival details from the ancient pandulipis corroborate and compliment the evidence from archaeological artifacts. Ancient pandulipis are useful as evidence to establish claims even in a modern court of law.

(4) Ancient texts provide a basis for examining the meanings and associations of words and concepts. It permits study of word usage and how the interpretations of the underlying concepts have changed with time. For example, significant changes are apparent even by 200 CE due to the Sanskritization of the earlier Prakrit languages.

(5) The content, explanations, and elaborations in the pandulipis provide insights into ways that facilitate development of new ideas and impact on future thought. Such changes chart the developments in the use of language to formulate and disseminate seminal ideas.

(6) Comparisons of different copies of the same work provides a basis to identify errors and establish integrity of the text. Often the scribes were not familiar with the content or meaning of the work. Such mistakes are not uncommon even in the modern printed works.

(7) The language of the content in an ancient pandulipi may be different than the language with which the script is now associated. For example, the historical reality of the migration of Bhadrbahu (ca 350 BCE) is the fact that the script of Dhavala pandulipis (ca1050 CE in Moodbidri) is in Hale Kannad of South India, whereas the language of the content is the Prakrit from North India. Brahmi associated with the Prakrits was the script of Ashoka's edict (ca 250 BCE). Brahmi later evolved into the Nagari script which after the 12th century is also associated with Sanskrit and Hindi. The first written text in Sanskrit is found in Pallavi script on a stone inscription from the 5th century to commemorate king PurvVarma.

(8) Ancient pandulipis are useful to study evolution of script and associated writing conventions to adequately express, present and communicate thoughts. Such features are of interest to trace evolution of abstract languages.

(9) Writing technologies used for the preparation of a pandulipi provide insights into the use of the local resources to preserve thought as words. Thus technologies of ink, paper, and writing instruments have facilitated dissemination of thought by self-study. This is one of the first step towards egalitarian system of education.

(10) Traditional methods for long term care and dissemination of written and printed materials provide insights into the effective means and practices for the preservation and care of the existing pandulipis in the local context.

(11) Pandulipis are work of art. Availability of illuminated pandulipi pages in black market suggests theft and irreversible loss of pandulipis.

Finally as developed in the Jeevatthan and Nay material on this site, the basis for the continuity of the ancient thought is more effective and very impressive even in the context of the modern intellectual approach.

Preservation and use of word heritage

It is estimated that 1 to 2 million ancient Jain pandulipis are scattered over several thousand holdings each with scores to thousands of pandulipis in different degrees of deterioration. Very few of these are readily available for scholarly work. Even the larger collections in the Government institutes and museum holdings are not necessarily better preserved. In many case they are less adequately equipped to deal with the problem than was the case 50 years ago. Very few of these collections are adequately catalogued. A detailed catalogue of catalogues in the book form was published before 1960. At the very least it can be verified for the holding and placed on the internet. My guess is that less than half of the pandulipis in existence now (2004) are adequately preserved to last another century.

Additional concerns about the accessibility and use of pandulipis in the public holdings include:

1. As such the lifetime of the pandulipis, printed books, or microfilms is expected to be few hundred years under the best of conditions and if without any danger from fire, flood, theft, and neglect.

2. Printed form facilitates dissemination and utilization of pandulipi material. For a variety of reasons quality and availability of the published versions varies widely. Virtually no library in the world, including the Library of US Congress, contains all the material published in Nagari. I doubt if any

library in India has all the material published in India. Also the major libraries in India do not participate in the international inter-library loan programs for printed books.

3. Scattered attempts have been made to microfilm pandulipis in some holdings. For example a couple decade ago an unknown amount of the material was microfilmed by the Department of Archives of the Government of India. These microfilms are not available through the interlibrary loan programs. Even the source libraries do not have the microfilms, nor do they know where and how to access these copies.

4. Very few of the pandulipi collections have catalogues. The person in-charge of the collections hardly ever responds to letters, phone calls, e-mails. The Indian University and Research institute libraries do not provide ready access to their pandulipi collections, nor is their access procedure standardized. During my personal visits to some of the well known libraries it took me up to several hours to locate a catalogued pandulipi. It is not uncommon to be told that it is not available. Chances of success appear to depend on who is answering the request. It is not uncommon to hear excuses like: *the material is not to be shown; it will require special permission which is not possible today; the material is handled by somebody who is on extended leave; the collection has been moved to another (unknown?) location; no facility is available for photocopying; camera-copies are not allowed. Five out of five times even the promised copies were not sent by mail even after the copying and mailing cost was paid in advance*.

Pandulipi preservation program (PPP)

Goal of a successful PPP would be to make digital electronic copies. As a cooperative enterprise, it must balance several factors. PPP can be successful only if the material is made

available to all those who can provide input and contribute to the effort. Such copies can be used and disseminated without touching the originals ever after. Ready accessibility in electronic media will encourage participation of many more people who might be will do study the material in their spare time. The long term value of thought in written works often goes unrecognized by the experts. Therefore wide-ranging inputs from diverse areas of expertise will be necessary to understand the content and create value from the empirical experience from the past. Viable intellectual framework is built on a broader base from which shared knowledge results in unforeseen technologies, products, and solutions. Here the guiding principle is that a story gets better with each retelling.

Resource limitation: Tangible enterprises conform to the conservation principle of Rishabhnath: *Upmei va, vigmei va, dhruvei va*. PPP is unlikely to be a money-making enterprise. Also in a real world resources are limited and priorities are weighed. Even with unlimited amount of money one can not do anything without expertise, know-how and interest. Even with proper planning and foresight, long term commitment is necessary to turn viable ideas into reality. Thus the overall success of PPP depends on wide ranging inputs. Resources required to realize value of viable PPP include:

1. Financial support to create infra-structure for life-long learning and education that supports a market for books and maintenance of dedicated libraries.
2. Products of technology are the products for trade. Just as thought begets other thoughts, existing technologies form the basis of the other emerging technologies. Such

professional expertise to develop and implement technologies supports a vibrant tradition of thought.

3. An author or inventor provides knowledge and expertise. His vision and credibility assures integrity of the original intellectual work. It may or may not be appreciated in a market place, but integrity is absolutely required for the long term viability of thought. Intellectual preparation necessary to carry out credible work takes decades for which an author is rarely compensated. Those who have not been involved in creative work can hardly appreciate the contributions of an author, researcher, or inventor.
4. There are misconceptions about the role of an author. Independence of thought is a critical intellectual resource necessary to create value. Interference in the independence of an original work stifles creativity. Managers are supposed to be caretaker and facilitator, but they often overstep boundaries of their role and abilities.
5. Sponsors rarely understand the nature of investments in thought because the value of original creative work emerges decades and centuries later in unanticipated and unimagined ways. It is also misguided to consider an author's work as "the work for hire." It is unlike the work of a day laborer, editor, or a manager. Also creating value through intellectual enterprise is only indirectly related to a very long term return on the investment in the infra-structure and training.

Unfair practices stifle creativity. Beyond the survival needs, a sense of purpose and fair dealing encourages creativity that is at the heart of all works of lasting value. If an author is to be blamed for a poor and compromised work, credit is also due for a job that

is well done. Personal satisfaction of an intellectual job is the real reward for an author who provides objective commitment and intellectual input for the enterprise. Often it takes time to understand the importance of such contributions.

The value of a viable thought is in its usability. Also not all ideas are created equal. Viability or potential value of ideas is rarely obvious in the beginning. Resources can help in creating value by offering suitable environment where choices are made to including all those involved in bringing an idea to fruition.

Few are fortunate to be able to finance creative work with their own resources. Charity can only seed a project and distribute the risk inherent in pursuing a long term vision. Such resources provide living wages to people who have vision, make intellectual contributions, provide expertise, and develop technologies. In the long run only the market forces can assure long term economic viability of a social enterprise.

Recognition of intellectual work often comes from its usefulness. Some seek social honors and rewards that often bring wider social recognition and boost to ego associated with ones public standing. Also recognitions by those who can hardly appreciate intellectual contributions are often distorted by political considerations. As if in search of social recognition, many of the original works now in print have questionable levels of professional expertise, scholarship, and standards of linguistic proficiency. In general, traditional scholars are better prepared to handle such challenges. Modern university trained scholars rarely have a deeper understanding of the overall literature or the tradition to appreciate the structure of the content and context of the thought.

Increasingly one hears that “little will be missed if most of the Jain works that have come out of the Indian Universities are

destroyed." There may be some truth to it if one weighs their levels of originality, creativity and integrity. Here again originality of thought is a key measure of any contribution. It is generally recognized that plagiarism is not uncommon. It is said that plagiarism is a form of flattery. However, it is disconcerting to see wide spread blatant plagiarism not only in reprints of the earlier works that do not acknowledge the original source but also in the Academic works. Many of the 'new' works are mere cut-and-past jobs with cosmetic changes. Such works often retain the mistakes of the previous versions and also introduce new. In other words, time, effort and resources are wasted. Such practices also create a wrong model that stifles originality without creating a useful product.

In short, suitable measures are needed to protect intellectual property. Responsibility accompanied by credit and acknowledgement is an integral part of the development of shared knowledge. Acknowledgements provide insight into the motives behind the work. Critical review by intellectual peers is necessary for responsibility, accountability and other forms of checks and balances. If personal biases can be controlled in a work, personal resources are more likely to assure independence of thought. Lack of measures and controls in the current environment makes it necessary to be aware of the nefarious influences from the competing faiths and beliefs that tend to distort or discredit a work by creating controversy where none exists. Such issues are best dealt with facts and in open.

The thought process behind the words from the past

The available ancient works are reassembled from scattered fragments from the original shurt tradition that is traceable to the Mool Sangh and before. Threads of continuity of thought about

seminal concepts (literally the word ***Sutr***) are apparent in these works. Greater appreciation of the meaning and significance of this body of work in emerging situations requires deeper understanding of the ideas and thought in suitable linguistic and historical contexts. The current goal of Hira Publication is to reconstruct the itthivay (the 12th) Ang of Mahaveer (see Hira-pub.org) from Jeevatthan and Nay. Thus itthivay is about validated reality based perceptions that underlie decision making. Such methods without ad hoc assumptions have continuing relevance for the future irrespective of the emerging facts, assumptions, and beliefs. I believe that the thought process of itthivay can be reconstructed with reasonable certainty. This is because the deeper human concerns and methods that guide thought change little with time, place and even the social evolution. As the product of mind thought processes do not change, the basis for reasoning may appear to change.

Critical scrutiny is an integral part of validation. A thought is also validated by outcomes of its practice. A viable thought has a defined basis and a defined range of applicability. In particular, appreciation of thought that binds an entire body of work requires an understanding of its:

- Scope and roots
- Applications and uses
- Continuity in the related works
- Relationships as expressed in the ancient languages
- Practice in a social context.

Difficulties are anticipated in reconstructing the thought processes in ancient writings. Not only the linguistic nuances but the ancient methods of reasoning and scrutiny are also not well understood. The evolutionary nature of the language also

interferes with the steps of reasoning because with time the assumptions and context change. To some extent the problem can be overcome by careful examination of the historically related works in a tradition where an idea is sequentially elaborated and explored over centuries. This is certainly the cases with the available Nay works.

It is not uncommon to see reconstructions of the past based on untenable assumptions or extrapolated form the present. In the Western Academic circles there is a general misconception that the use of the Sanskrit preceded the Prakrit languages. Sanskrit as known now is mostly a written language formalized between 400 BCE to 400 CE for the use of scholars. The Prakrits are languages of common people with much more ancient origins. The Prakrits were in general use in the Ganga Valley long before the emergence of Vedant after 600 BC. The Sanskrit grammarian Panini lived in Kandahar around 400 BC who developed rigid rules for assembling words from their phonemic roots. Thus phonemic purification of Prakrit words into a Sanskritized word is more a matter of convention rather than the usage in practice. Obviously it would be of interest to know the nuances of the Prakrit words as they were used. This can only be done not by looking at single words but the word constructs as a whole.

Finally, it is also misleading to interpret Jain thought in terms of the current state of the Western logic, philosophy, and social experience. Therefore it is not surprising that the Western Academic works have failed to capture even the seminal trends of the Jain Vangmay, let alone the subtleties of the fundamentals of the thought process.

Part II: Written Words preserve the dynamics of the past

Before the evolution of the standard written script spoken words were destroyed as soon as spoken! The spoken words were transmitted through memorized text. Even 2500 years ago it was clearly realized that human recall is faulty and unreliable unless the material is also understood (see Gautam's Nyay Sutr on this site).

Communication through written words and symbols began about 2000 years ago in India, although and the oldest surviving stone inscriptions are about 2300 years old. Most of the available Jain pandulipis are the originals or the copies made from the earlier pandulipis during the last 500 years. Wider use of the written medium required certain technological developments during the last 6000 years.

- Clay tablet are about 5000 years old (in Iraq and Syria).
- Word inscriptions on stone are less than 3000 years old in India.
- Text on skin and papyrus appeared about 2500 years ago in Middle East.
- Text on strips of birch bark, Tal-palm and bamboo strips appeared 2000 years ago in India.
- Text on paper came into general use about 1000 years ago.
- Printing press came into existence about 500 years ago.
- Telephone communication on wire is less than 150 years old.
- Radio and TV technologies for wireless communication are less than 100 old.
- Methods of electronic transfer and manipulation of text and numbers and cyber communication (computer, internet, CD) evolved in last 50 years.

The conceptual stage for each new development is set from the experiences of the preceding developments. New developments also adopt other emerging concepts, technologies, and needs. Thus the dawn of the cyber age required standardized symbolic language and script; spread of literacy facilitated by development of technologies for making paper, inks and printing methods; and developments in the concepts, theory and technologies of electronics and materials, and infrastructure for storage, transfer and retrieval of symbols at the speed of light over long distances at low cost.

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Also consider a major event that triggered the transition of Shrut text into the current Jain Vangmay (See http://hira-pub.org/). About 2000 years ago Dharsen recognized the importance of committing the spoken words to the written form. As a direct result of his initiative Jeevatthan and parts of Shatkhandagam are still available in a pandulipi copy (from ca. 1060 AD) with Prakrit text scribed in old hale-Kannad on strips of palm-leaf. Over the next few centuries a large part of the fragmented Shrut material was also written down. Of course one can not ascertain the resemblance of the written material to its shrut origins. However, the written words unleashed creativity. The technology also took drudgery of memorization out of the learning and reasoning that encouraged thought communication. This is because:

- Interested individuals with initiative could learn without a personal teacher and contribute without a mediator.
- Copies could be placed in different locations where large number of people over long period of time could read the material at their own pace.
- Multiple pandulipis made by scribes is probably the single most important reason for the survival of the ancient works.

- Dispersal of such copies promoted a system of lifelong self-study through temple collections. It also encouraged exchange of ideas through ***vachna***, discussion, elaboration, debate, discourse and critique of the content. Such steps are necessary for a viable tradition of reason and thought.
- Pandulipis promoted an egalitarian culture of thought through shared reasoning. This is in contrast to the practice of secretive access of pandulipis by select few, as was and still is prevalent in many cultures, that stagnate thought by making it an object of worship rather than to facilitates understanding and reason.

The *shrut* from the past would have been lost without committing it to written text. Of course, we do not know what fraction of the original ideas have found their way into any of the modern texts. I believe that it is possible to fill the perceived gaps in the underlying thought and reasoning in the available material. Over the centuries, concerns about use, dissemination and loss of written material have been resolved by ancient practices of making multiple copies kept at different places. We do not know how many of the copies have been lost or destroyed. My estimate is that more than half of the works available 1500 years ago have survived and are available in the pandulipi pandulipis.

Here are some criteria and suggestions for deciding what needs immediate attention, and what course of action can demonstrably provide best value:

1. Very few, if any, original pandulipis are available.
2. Most of the available pandulipis are copies made by different individuals at different times with varying degrees of explanatory and overlapping text.

3. It is certain that most of the available pandulipis were not copied from the same original. Scrutiny of such discrepancies could be informative.
4. Pandulipis were often copied by people familiar with the script but rarely understood the language or the content. In terms of what they transcribe, quality of the final presentation, and possibly for the careful preparation of the writing medium and ink the scribes or *lehiye* are well known for the fidelity of their work.
5. The scribe is rarely acknowledged by name. Also there is no standard record of the name and pedigree of a pandulipi. Often such information is ascertained by other independent means and cross-reference.
6. Physical transfer of the pandulipis has destroyed potential information that could be pieced together from the location where it was copied or first placed in use. Such difficulties are inherent in the archival collections which do not record information about the source of pandulipi. One can only assume that the pandulipis placed in a Jain temple less frequently moved.

Part III. Digitization and Electronic communication

Dissemination of written words and ideas in standardized text and translations has been greatly facilitated by the print medium. Such developments continue to play a critical role in the evolution of cultures. During the last few hundred years enormous wealth of printed material has become available at relatively modest cost. To varying degrees this material is available in libraries. On the other hand libraries are also facing a crisis about the storage, care and preservation of their holdings in print.

In recent years copying machines and internet search engines have further reduced the cost of preservation, storage, and transfer of the written and oral text. It appears that within a decade much of the printed material in English will be accessible anywhere in the world at any time via the internet. Imagine the time and cost saving, as well as the ease of locating and accessing the material from a cyber library. The fee structure is yet to be settled. A significant part of the material may be free but quality control of this material is even a greater problem than it was for the printed works. As in any market place, the buyer has to be beware.

With modest effort and motivation one can now delve into enormous wealth of ideas that are in print. As the saying goes, such means of word transfer *may bring a donkey to the water's edge, but can not make the donkey drink*. Viable ideas are disseminated though practice, and there is no substitute for practice with understanding. Judgment and care is always necessary to discard contradictory, inconsistent and irrelevant ideas that are not discriminated by faith.

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Dissemination, retrieval and manipulation of information in pandulipis would be greatly facilitated if their digital copies were made widely accessible. This can be done most readily on the internet. This approach offers a long term solution for the problem of preservation of the written word in its near-original form. Wider accessibility would unleash enormous creativity of the wide ranging readers. The digitized electronic image of a pandulipi is also well suited for the long term (virtually forever) preservation and wider dissemination virtually without vagaries of human involvement.

A high quality digital image of a pandulipi preserves the words for ever. Of course digitization does not damage or preserve the original pandulipi. Also the information inherent in the composition of the paper and ink is not preserved. On the other hand reduced handling of the original material improves chances of longer term survival. May be the future technologies will also address problems common to the current methods of archival restoration. The digitized pandulipis can be made available to the future scholars at cost. With the available technologies it is also possible to store virtually all known printed Jain works and pandulipis in the space of the wallet or small book size. These technologies would not only make a comprehensive library of the collected works available for local use, but their use would also circumvent many of the difficulties that one encounters now.

The written and printed books have changed the landscape of the ways in which we read and disseminate words that we consider venerable. With suitable precautions the same can be done for the wrongful use of the electronic medium including CD, VCR, and internet. Of course, the ultimate responsibility for the use or misuse of a work lies with the consumer who may or may not be the buyer.

The major advantage of a digital image is that it is preserved for ever. It can be readily reformatted to suit the various media in existence or as they become available in the futures. Thus it should be possible to preserve the work without touching the original pandulipi ever again. Electronic images are readily transferred by internet, which makes it possible to access the image simultaneously by geographically separated users. This could unleash enormous creativity by a broader segment of the readers. At present search and manipulation of the content is facilitated if the material is already transcribed, translated and interpreted in English.

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Hira Publications is interested in finding ways for electronic transfer of the ancient Jain works. It would help find ways to elaborate and facilitate use of the content in the emerging contexts. We suggest three major steps that would facilitate care, use, and dissemination of the digitized pandulipi material:

A. **Cataloguing of the material in the various holdings.** At present the difficulty in cataloging the material available in various holdings is that the owner or manager are not willing to share it or do not have resources to share relevant information. The problem is made worse by an initiative of the Government of India which has spawned a cottage industry of digital cataloguing. If the fate of the centralized library catalogue of the Government of India Institutions that was initiated over 20 years ago is in any indication, the catalogue of pandulipis has little chance of success.
B. **Preservation of digitized images.** Use of electronically digitized color copies of a page solves problems associated with repeated handling. It eliminates the chances of

deterioration by mishandling of the original pandulipi. Digital scanners are reliable for color fidelity, whereas the camera copies are more likely to be influenced by the lighting conditions. Digital copies can be preserved in diverse locations virtually for ever. Electronic copies of the high resolution color images can be distributed over internet at high speed and low cost. Setting up these technologies requires expertise. Certain choices may have to be made to decide which one of the millions of pandulipis are to be preserved in the electronic medium. The deciding criteria may include rarity, state of preservation, significance, and other local considerations. It is possible that such choices may not be as restrictive if cooperative mechanisms and modes could be agreed upon. Efficient use of resource requires pooling of the resources and division of responsibilities. Considering the state of the efforts sponsored by the Government or public charities, such mechanisms are unlikely to work on a large scale. We believe that Hira Publications can provide the centralized internet and storage expertise if complete digital copies of the works are provided by the holder of the pandulipis.

C. **Dissemination and use.** At some stage one may ask who are the potential users of the ancient pandulipis. The highest priority for Hira Publications is to develop and present the content of the seminal works in a modern script and in a form that facilitates further work. Fortunately, with a remarkable surge of scholarly interest in the early part of the 20th century, many of the major works are now available in the Nagari script. Jeevatthan and Jeevsamas Gatha as well as the Nay works or Gautam, Divakar,

Aklank and Manikyanandi are now available on www.hira-pub.org along with short interpretive translation in English. Analysis and elaboration of key ideas in the contemporary context is also presented in stand-alone essays.

We seek wider inputs and participation for such works with major themes with ancient origins.

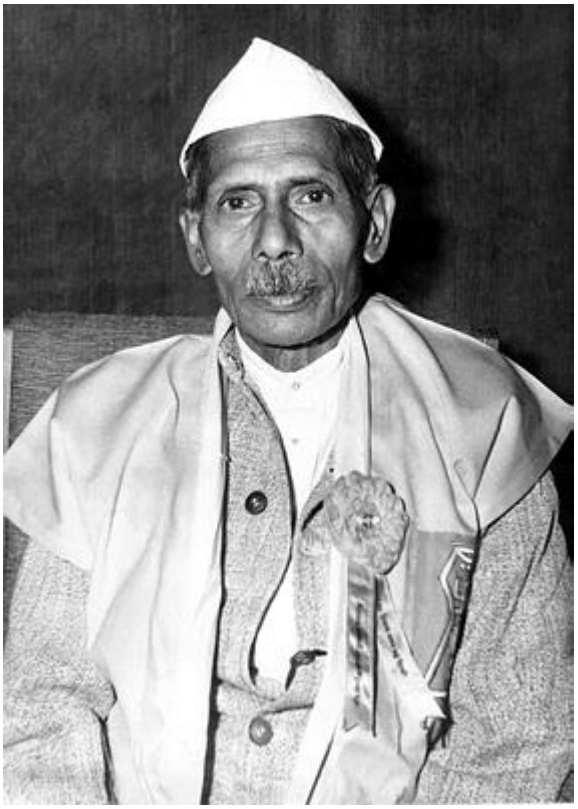
II-28. Biographical Sketches

Kakka, Panditji, Balchandji, and many other contributors to the Dhavla work were born in the Bundelkhand region that has been hospitable to the followers of the original group out of Patliputr. Note that all the three scholars who did most of the Dhavla work between 1930 to 1970 were born within 20 miles of each other, and at some point they were associated with the Pathshala at Sadumar. Even to this day many young people have little choice except to progress through such traditional schools. Bundelkhand region is not industrially developed. Compared to the planes of Ganga it has remained a more hospitable environment for the ancient traditions.

Bundelkhand is a small geographical region of the central India that lies south of Jamuna and East of Ujjain along the Betwa river and its tributaries (Figure II-2). It is on the ancient migration route (Essay II-9) and a safe distance away from the Planes of Ganga. This region has not been on the marching-route of the invading armies. A connection of Deogarh and Aharji in this region probably goes back to 1100 CE. Etymological roots of most spoken words in the Bundelkhandi dialect go back directly to Prakrit without much influence of Sanskrit.

Heera Lal Jain Siddhant-Shastri and Nyaytirth

(1904-1981, born in Sadumar)



I call him as Kakka. He taught at Sadumar, Beawar, Saharanpur, and Hastinapur. Most of his work was done free-lance while teaching Siddhant, Prakrit and Nay to monks and layman. He was at his best in one-to-one dialog, although he was also sought out for talks in large religious and non-religious gatherings. He published over two hundred articles. His major work was in bringing the Prakrit texts of The Dhavlas, *Tilloypannati*, *Kasay Prabhat (Kashay Pahud)* and *Karm Prabhat*. His other works include *Jin-sahashranam, Basunandi Shravakachar, Prakrit Panch-sangrah, Jain Dharm-amrit, Karm-prakrati, Shravakachar Sangrah* (in five volumes with 33 *Shravakachar*), *Davodaya Champu, Sudarshanoday-kavya, Jayoday-mahakavay* (first half), *Pramay Ratnamala*, *Dasha Vaikalic Sutr, Drvyasangrah, Jita sutr, Dash-shrutskandh, Nishith-sutr Prayashchit-sutr, Sthananga-sutr, Samvayang-sutr, Sudarshan-charit*,

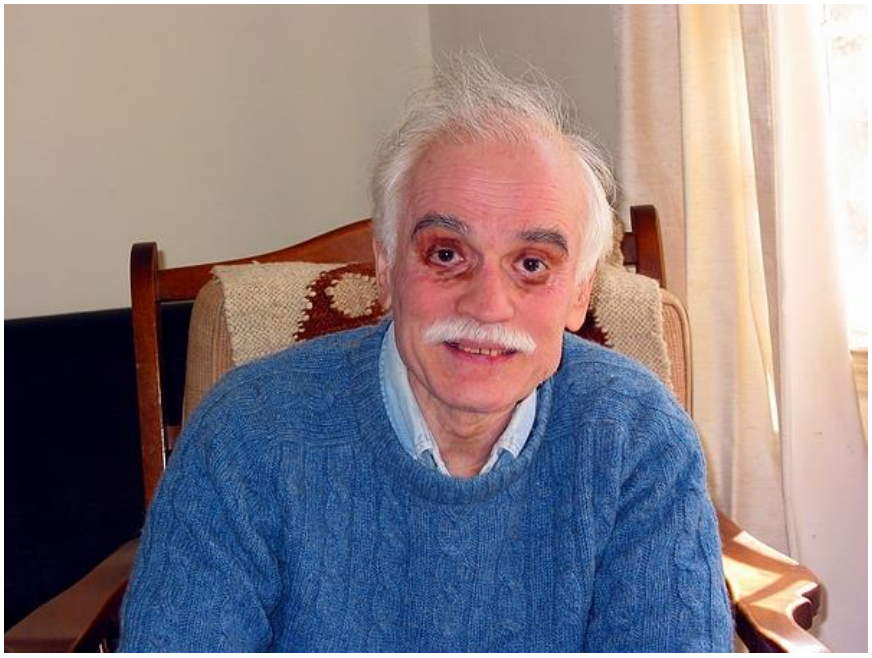
and *Vir Vardhman-charit*. One of his later works on the interpretation of *mantr* and *sutr* was in the review process at the time of his death. It was later published by the reviewer under her own name!

Phool Chandr Jain Siddhantshastri (born in Silawan, 1901-1995). I refer to him as Panditji in this volume. He taught at Sadumar, Morena and Banaras Vidyalaya. In addition to the work on The Dhavla (1939-42), he wrote *Jain-Tatwadhyayi* and commentaries on *Moksh-shastr, Sarvarth-siddhi*, and *Panch-adhyayi*.

Bal Chandr Jain (born in Sonrai, 1905 – 198?) Siddhantshastri coedited volumes 6 to 16 of Dhavla. His other works include *Tilloy-pannati, Jambu-dippannati, Atm-anushashan, Panch-vinshitika, Gyanrnala, Subhashit-ratn Sandoha, Dharm-parikcha*, and *Punyashrav Kathakosh*. He was also the series editor for several publications from Sholapur.

Hiralal Jain (born in Narshinghpur, 1899-1973) L. L. B., Ph. D. I refer to him as Professor in this volume. He published over 100 articles on the historical context for the pandulipis and inscriptions. He was the managing editor of The Dhavla. He is best known for his book: Bhartiya Sanskrati ko Jain Dharm ka Yogdan. He was a series editor for the Bhartiy Gyanpith publications: *Savay Dhamm Doha, Pahud Doha, Nay-Kumar Charit, Karkand Chariu, Jinvani*, and *Sugandh Dashmi Katha*.

Mahendra Kumar Jain



Son of Heera Lal Jain (b. Ujjain 1938-) His formal education was in modern sciences. As Professor of Chemistry and Biochemistry (www.udel.edu) at University of Delaware (USA) he has published over 200 original research articles and scores of reviews and books in the field of membrane biophysics and interfacial enzymology. He formally studied Sanskrit and elementary Jain Siddhant. He cultivated a parallel interest in the thought processes and devices through which humans reduce the level of doubt through empirical reasoning. This interest has resulted in the interpretive translations and essays on this site. As emphasized in these volumes, if interpreted in terms of the ancient works the *syad*, *anekant*, and anugam methods not only a mathematical structure but also have conceptual affinity to the deeper structure of human thought.