

Culture as the Designer

Lalit Kumar Das

Footnotes begin on page 52.

An inherent biological instability and the consequent feeling of insecurity motivate man to structure an environment of beliefs, knowledge, and theoretical structures, objects, and practices. Man also has a tendency to create consistency and compatibility among these different levels of human creation. Peter L. Berger and Thomas Luckman provide a theoretical framework for the study of human culture as an ongoing human activity.¹ In a later work, Berger states:

The fundamental dialectic process of society consists of three moments or steps. These are externalization, objectivization, and internalization. Only if these three moments are understood together can an empirically adequate view of society be maintained. Externalization is the ongoing outpouring of the human being into the world, both in the physical and the mental activity of men. Objectivization is the attainment by the product of this activity (again both physical and mental) that confronts the original producers (and other participants) as a facticity external to and other than themselves. Internalization is the reappropriation by men of the same reality, transforming it once again from structures of the objective world into structures of the subjective consciousness. It is through objectivization that society becomes a reality *sui generis*. It is through internalization that a man is a product of society.²

Meta-theoretic Consideration in Indian Culture

The Indian culture is unique in its capability to create an environment that recognizes the insecurity and instability in man. It strives to create a culture that provides social stability to children, and then prods them to reflect, as they grow older, on the illusory nature of physical and mental reality. The focus is on the unchanging, all-encompassing, all-knowing nature of the consciousness, which also is the basis of everything in the universe. This is where the concept of Brahman and Maya, at a meta-theoretical level, play a foundational role in Indian culture. Brahman is the all-pervading creative energy which, through Maya, is playing all of the parts and wearing all of the masks. Therefore, nothing should be taken seriously because it is all just a play, a drama put on by Brahman. This is a cycle that goes on and on, never ending. Man can only comprehend the drama by not unleashing his own drama, but by understanding the law of karma and becoming one with the Brahman—the true nature of self.

The Brahman, at a lower level represented by the Hindu Trinity, also is called Trimurti (meaning three forms). This is the representation of the Supreme Reality as Brahma, Vishnu, and Shiva. Each of these manifestations is associated with a specific cosmic function. Brahma symbolizes creation, Vishnu preservation and renewal, and Shiva dissolution or the destruction necessary for recreation. The members of the Hindu Trinity are not three different and independent gods, but three aspects of one Supreme Reality, called Brahman.

The second important belief is in the karmic theory. Hindus, Buddhists, and Jains share this. So is the concept of the true nature of self—*atama* or soul.³

The third important belief is the existence of regenerative and degenerative cycles as normal to society and that, at times, it requires enlightened divine intervention to facilitate order. Maya creates the cycle of time, called Kalchakra, in order to create divisions and movements of life and to sustain the worlds in periodic time frames. These have been referred to variously by different religions. Hindus believe the process of creation moves in cycles, and that each cycle has four great epochs of time: Satya Yuga, Treta Yuga, Dwapara Yuga, and Kali Yuga. And because the process of creation is cyclical and never-ending, it “begins to end and ends to begin.”

The Building Blocks

Dissatisfaction with the frail, unjust, and illogical patterns in society is seen as movement within an intelligent and evolved mind. Such a person is encouraged to become a *sadhu*, or monk. Through an attitude of renunciation, this person moves away from an involved existence in society, and seeks to empirically discover the true nature of self, that is all-knowing, infinite, everlasting, and the support and nature of all that was, that is, and will be.

A *sadhu* is held in such great veneration that, when society ill-treats a *sadhu*, even Vishnu has to reincarnate on earth to restore order. A *sadhu* is a social rebel in the sense that he has rejected society. He strives to free himself from social conditioning, lives on natural resources and alms provided by families, and spends most of his time in meditation, understanding the true nature of self. *Sadhus* come in innumerable forms, but always are worthy of veneration. Arnold Toynbee calls them the social rebels who ultimately emerge as creative leaders to rejuvenate society. It is these *sadhus* who provide an ascetic underlying thread to the design of the Indian man-made environment.

The *sadhu*'s belongings are very, very few; in many cases limited only to a begging bowl. They may not wear any clothes; the directions of space are the only clothes. Yet they are alert, watchful, content, restrained, and pleasant. They have love, understanding, and wisdom. It would be an honor to have a *sadhu* as a friend, philosopher, and guide. They are interpreters and articulators of

the workings of the Brahman, Maya, laws of Karma, mythologies, scriptures, and Indian society in general.

The second important building block consists of the epics. Foremost, *Mahabharata* and *Ramayana* provided the theoretical structure for the Indian culture: a popular, captivating, allegorical, analogical basis for understanding behavior and relationships. In both of these epics, the characters are of metaphysical origin with highly articulated personalities. Events happen in which interests conflict. Pluralities of viewpoints are presented. In *Ramayana*, respect for elders, and sacrifices for the feelings and well-wishes of elders are given primacy. Order is seen to be achieved through love, respect, and sacrifice. In *Mahabharata*, the dialectic of revenge and reconciliation is explored, and the primacy of reconciliation over revenge is finally established. Ram is the prime character of *Ramayana*, and Krishna is the prime character in *Mahabharta*. Both are the reincarnation of Vishnu, who is charged with preservation and renewal. The informal, decentralized institution of sadhus is preserved, and the values within society renewed.

The third building block is the pragmatic or physical level of Indian culture. It is meant to resonate with the vision at the meta-theoretical and theoretical levels. It also strives to establish a cascading connectivity between space, sound, music, dance, sculpture, architecture, astrology, and social events. It is here that the artists, artisans, and social engineers working in unison find expression. Similarly, the product, system, services, and environment of the Indian milieu reflect the belief structures at the meta-theoretical and theoretical levels. The media and message both reinforce the same concepts within the culture.

The Theoretical Foundation

Thirty-two primary fields of knowledge, the concern of the learned within Indian society, provided the framework for the theoretical foundation of knowledge.⁴ The thirty-two vidyas (fields of knowledge), except for the four vedas, were available to everybody to study and learn under a guru. The sixty-four kalas (arts) were derivatives of the thirty-two vidyas, and constituted the level of popular practice. These were the substances of the day-to-day culture. Sixty-four kalas also were important requirements for any cultured citizen whose interest is evident in any household.⁵ All children are encouraged to cultivate interest in these sixty-four kalas. Thus, there was a symbiotic relationship between the learned minority and the appreciative majority. The traditional Indian design paradigm exists and thrives in this framework.

The purpose of society and the physical environment in Indian culture, in the first instance, is to provide a secure and stable environment to everyone. But, in itself, this is not enough. The environment must direct the individual's growth towards the potential to realize the true nature of self, the Brahman: the all-encompassing

consciousness that is intelligence and creativity par excellence, and love all-embracing. To achieve this, society and the physical environment have to be constructed in a manner that it is symmetric with the cosmic levels of phenomena. In our case, we may say that it reflects the nature of Brahman, Kala, and Maya, and the laws of Karma.

The Message and the Medium

It is apparent that certain concepts and systems must become the underlying basis for day-to-day design synthesis. Let us try to delineate these at the level of philosophical assumptions, social system needs, and the requirements of the physical system.

Philosophical Assumptions:

- A. Stability through patience, and tolerance of plurality and opposites.
- B. Continuity and change.
- C. Incarnation and reincarnation.
- D. Faith in the existence of all-pervading all-encompassing intelligence, creativity, and love.
- E. Faith in a human's capability to realize his/her true self; that is, all-encompassing intelligence, creativity, and love.
- F. Faith in karmic theory.
- G. Faith in the divine boon that whatsoever man desires and strives for will be achieved.
- H. Everything evolves towards its essential potential.

Social System Needs:

- A. A social system that discourages hedonistic expression of ego, selfishness, anger, hate, lust, envy, greed, vengeance and retaliation, attachment, aversion, killing, stealing, etc.
- B. A social system that looks down upon karmic defilement such as ego, selfishness, anger, hate, lust, envy, greed, vengeance and retaliation, attachment, aversion, killing, stealing, etc.—especially among family members—and thereby prevents this from becoming deeply rooted during youth.
- C. A social system that channels people towards creating a physical environment that reminds them of the potential for development.
- D. A social system that respects natural events and calamity, and respects life, other viewpoints, and one's elders.
- E. A social system that encourages love and care among siblings and one's peer group, sharing, group activity, and group participation.
- F. A social system that celebrates human development and enfoldment.
- G. A social system that celebrates, respects, and worships environmental good fortune.

- H. A social system that has a cordial, symbiotic relationship with the ascetic sadhus and even the well-to-do and influential members of society including its rulers. Also an environment that allows everybody to joyfully experience, even in small measures, an ascetic life if need be. Poverty cannot and should not be looked down upon. Man has to be appreciated for the qualities of the mind and, above all, the qualities of heart.
- I. A social environment that has plurality, and a joyful acceptance of that plurality.
- J. Hardship lived with magnanimity and equanimity leads to evolution.
- K. Evolution can take many lives and, given many lives, things will evolve.

Physical System Requirements:

- A. A physical environment of form and ritual that recognizes kundalini energy, right-left, clockwise-anticlockwise complementary symmetry.
- B. A physical environment that maximizes the use of human/user participation, while allocating functions between man and machine.
- C. A physical environment that minimizes the number of products needed for existence and evolution.
- D. A physical environment built of products with a plurality of uses.
- E. A physical environment that allows the exploration of alternative uses of existing things, giving to others, sharing, and recycling.
- F. A physical environment that is built of natural agricultural and forest-based natural materials.
- G. A physical environment in which form is transient and fleeting, and content manifests itself in different forms and can be reincarnated in different forms. Content also undergoes changes and evolves.
- H. A physical environment that is commensurable with emotions and purpose.
- I. A physical environment that treats hedonistic extravagance as merely an illusion.
- J. A physical environment that is evolution- and human-centered.

Human Resource Infrastructure

The knowledge and practice base of the designer was constructed at various levels such as learned assemblies, ashrams, schools, guilds, an apprentice system, and a hereditary system. The first two provided essentially the meta-theoretical and theoretical foundation, and the last three the pragmatic, experiential propositions.

Learned assemblies were an important source of consensus literature. Even today, Maha Kumb Mela is an important get-together of the sadhus and rishis. Rig Veda talks of Brahma Sanghas, the gathering of the learned. These assemblies were intended to facilitate a consensus of wisdom, the advancement of knowledge, and a diffusion of learning through discussion. It is through such assemblies that important manuals or *shastras* were formalized for wider distribution.

Ashrams of rishis or preceptors served as useful venues for imparting education in various disciplines, including technical education. The system gained much importance during the Epic Period (about 500 BC to 200 AD), so this period is called the "Age of Ashrams." Every rishi of attainment would strive to set up huge ashrams, a tendency that continues today.

Schools imparting education in technical disciplines developed mostly in Buddhist times. Notable among these was Taxila (400 BC to 200 AD) and Nalanda University (400 to 1200 AD). Within these were schools for specialized education such as sculpture, archery, and medicine. The teaching began with theoretical instructions followed by practical work.

Guilds were organizations of craftsmen or artisans formed to safeguard the collective interests of an industry or craft. The chiefs of guilds had a special relationship with kings, who were the main source of contracts for implementation by the guilds. These also were centers for learning new styles of working. An apprentice system allowed master craftsmen to admit a few students, who would stay with their teacher until their education was completed. At the end of their training, the apprentices could leave, but the teacher had the first right to hire him/her.

In the hereditary system, the father taught his child, beginning at a very young age. The child would imbibe the spirit of craftsmanship he was learning, and was morally bound to pursue the craft of his forefathers.

The six-tier system for the development of craft and technical education described above produced high-quality manpower, well-versed in both the practical and theoretical foundations of design. They were the designers of Indian culture.

The Cultural Approach to Design

Two kinds of materials are available in the world: one is Prakrit (natural), and the other is Sanskrit (cultured). Things received from nature, as it is, may not be usable by human beings. They have to be cultured. The impurities should be removed, and some properties added, to make natural things useful. This is a three-stage process: removal of impurities, addition of properties, and completion of absent parts.

To achieve these three aims, we treat everything in different ways. For example, gold taken from a mine passes through each of these treatments. Raw ore is smelted into gold, the gold is turned into ornaments by shaping symbols into it, polishing it, affixing jewels, making the ornaments easy to wear, etc. Similarly, the act of conception and the subsequent stages of development of a human being requires the removal of impurities, the addition of new properties, and providing new and/or replacing absent parts.

Consecrations or Sanskara ceremonies serve the same purpose. This literally means “making perfect, purification, cleansing,” which is derived from the Sanskrit word “sanskra,” meaning “to form well, to put together.” Sanskara refers to a ceremony which is performed as a purification rite for an individual or family. According to Hindu belief, ceremonies are performed at two levels: shruta and grihya. Shruta ceremonies are performed on a grand scale, with more than one priest and a large number of people in attendance. Grihya ceremonies are small and private, performed at home with or without a priest.⁶ The purpose is to prepare a person to enter a new phase of life. Evoking everyone’s goodwill, directing attention, and providing information, knowledge, and insight are important aspects of these ceremonies, which are focused and intensified through rituals. This helps instill faith and confidence in facing the future. It enhances motivation to perform the transition. It helps leave behind the debilitating burden of the past, and provides the strength, motivation, and purpose for a new transition.

These sanskars are tied to the system of craftsmen. Each sanskar ceremony requires many objects for performing the rituals. Thus, craftsmanship is intrinsically tied with not only the caste categories, but also with the system of sanskara. Every Indian performs at least four if not all sixteen sanskara. The craftsmen of different trades, along with senior relatives and the pundits, are not only involved in performing these rituals, but also in creating artifacts, ritual objects, and other items required for all of these ceremonies. Sanskar ceremonies formalize the transition to the next phase of growth and responsibility, and provide the tenor of the Indian design ethos in which human-centric evolution and emancipation are the basic optimization criteria and purpose of civilization.

There are many annual festivals linked to the changing seasons or historical/mythological events celebrated by different religious sects. And with each festival, there are various private and public functions. These festivals again provide a ready market for artisan craftsmen, who try to come up with new designs every year, but always within the tradition.

Indian world-view holds the cosmos to be holonomic⁷ and symmetric, but within that symmetry the existence of two opposite and complementary principles are the fundamental constituents of the cosmic phenomena. The Purusha-Prakriti and Shiva-Shakti pairs of Indian thought also represent passive and active, matter

and energy, gross and subtle, and the right and the left. The Right is Dakshina: straightforward, honest, impartial, amiable, compliant, and submissive. The Left is Vama: crooked, reverse, contrary, and opposite; yet lovely, beautiful, and charming. Breathing through the right and left nostril also is linked to the functioning of the left and right hemispheres of the human brain, respectively. Both have a place in life, and should be successfully synthesized.

The Indian system of creativity assumes the existence of a dormant energy called *kundali*, residing at the base of the spine. Arousal of the same is the purpose of yoga. Yoga is a system of knowledge, physical movements, breathing, and directing attention. It unifies body, mind, emotions, and spirit so that they work together very well. A yogi endeavors to discover the higher consciousness and how the body, mind, and emotional nature can be truly fulfilled through unifying their purposes, rather than living in constant interior civil war. Yoga is a part of Indian life that Indians can comfortably adapt to—a floor culture for sitting and sleeping.

The Hindu pantheon has a large portfolio of god/goddess images incorporated from different streams of faith and thought. These have been knitted together through mythological stories into a unified whole. Variations in the images of the same god are encouraged, while retaining the semantics. Design exploration with materials and processes further amplifies the message. The images of gods in the Hindu pantheon are loaded with meaning. It is this meaning that has to be seen in a flash *darshan* (direct experience). The images of different gods also are seen collectively because that way they represent a more easily comprehensible whole. The most important message is the complementary symmetry of the opposites—the right and the left, the top and the bottom. Ultimately, all opposites have to peacefully coexist at the feet of Lord Vishnu, the great preserver. It is believed that such is the design of Brahma, the god of creation.

Vastupursha, inscribed in a square grid structure with its head pointing northeast, is the basis for the design of houses in villages, urban havelis, and temples. The square grid structure also is the basis of rangoli designs that every woman steeped in tradition draws [with rice powder] outside her home every morning to welcome divine spirits. Perhaps it also is a balancing of the right and left brain—a symmetry of systems at different levels—that ensures the easy experience of the physical environment, whether it is in the settlement, home, or the temple.

From Systems to Services and Products

Pilgrims to Haridwar are obliged to make offerings to deceased ancestors, especially paternal, as well as to make offerings to Mother Ganga, and ritually bathe in the holy river, assisted by the Pandas or priests in Haridwar. They are a clan of Brahmins who also record the lineage. Using an index of villages and castes, they can instantly find

the page detailing the lineage of the pilgrim, and update the record. Apart from being a historical document, this document is considered authoritative by courts of law and is referred to in matters of distribution of property in Hindu families. Each Panda is in charge of certain regions, and has records as old as four hundred years, but carries registers of just one century. Older records are preserved at home, and these can be easily examined upon the request of the pilgrim. The careful recordkeeping and the quick recall of information are breathtaking.

Angadia is the traditional door-to-door courier business, prevalent mostly in Gujarat and Maharashtra since time immemorial. Earlier angadias transported goods from one place to another using horses and bullock carts. The angadias mostly deal in bulky items and not in documents and letters, unlike the modern courier services. Diamond merchants in Gujarat routinely send valuable caches of diamonds through angadias, ferrying an estimated four million dollars worth of diamonds daily from Mumbai, where the gems arrive from abroad, to cutting and polishing centers in neighboring Gujarat through a service run without receipts or records of transfer. Angadias also deliver clothing, machinery, and jewelry more reliably than anyone else. The couriers are nondescript persons. Trust and faith are values held in great esteem in India, and this kind of system easily takes root in such an environment.

The *dabbawallahs* are unique to Mumbai, and their delivery service has been in existence for the better part of a century. Around five-thousand *wallahs* deliver approximately 175,000 *dabbas* (lunches) in *tiffins* (segmented tin boxes) from suburban households to schools, colleges, mills, and offices spread across the entire city and its environs. Their customers are middle-class citizens who, for reasons of economy, hygiene, caste, and dietary restrictions—or simply because they prefer wholesome food from their own kitchens—rely on the *dabbawallahs* to deliver a home-cooked midday meal. Each *tiffin*-carrier lid carries a complex coding system: colors identify each suburb and individual sectors of the downtown core. Dashes, crosses, and dots pinpoint the street, the building, and even the floor to which the *dabba* will be delivered, and eventually returned to its source. The system is an excellent synthesis between the capability of the carrier and the end user. One *tiffinwallah* will pick only ten to twenty *tiffins*, which he can easily recognize and sort at the originating station, and deliver to the owner. Also, within a particular building, the *tiffinwallah* knows to which floor to make the delivery. Individual owners on the floor can readily recognize their own *tiffins*. On average, the *wallahs* make only one mistake in two months, meaning there is roughly only one error for every sixteen million transactions. Thus, this is a “6 Sigma” performance according to *Forbes Global*, the international business magazine. It is yet another example of how an efficient, yet low-cost, system can work given the supporting value structure.

The *kabadiwallas* in India run the most efficient, low-key recycling system in the world. These waste merchants are willing to buy anything including old newspapers, school papers, books, bottles, old clothes, and old utensils. These are reused, recycled, or converted into new products. Like a virus, plastics have infiltrated every sector of the economy from agriculture and telecommunications to consumer goods. According to one estimate, the recycling industry in India is a half-billion-dollar economy based on a network of ragpickers and waste collectors. Europe recycles seven per cent of its plastic waste, China ten percent, and Japan twelve percent, but India recycles sixty percent of its plastic waste. Indians are masters of junk—Nek Chand in Chandigarh created a sculpture garden out of city junk. Old clothes are converted into marvelous rugs. This is not merely because of poverty, and has a lot to do with the Indian psyche with its foundation in the Indian belief structure.

Here is an example of a product system. *Pandals* are temporary environments created for festive occasions such as marriages and Durga Puja twenty-four to seventy-two hours before the event. These are structures built essentially of tubular frame structures and cloth panels. They consist of ceilings, walls, carpet floorings, gates in colorful patterns, light fittings, floral decorations, and tea, dinner, and ceremonial arrangements. Pandals are laid out to create the basic space and to channel the flow and gathering of visitors. The end effect is simply a dreamlike, highly elevating, evocative experience. The environment is created with components that are used again and again in different places and at different times, making the effect entirely different each time based on the client's preferences. The system of designing and construction is indigenous, conceived in the philosophical framework of India. It also is an affordable dream world, ranging from a few hundred dollars to many thousand of dollars.⁸

Consider an example of a commonplace Indian product. In a tradition more than five-thousand years old, the sari is the garment worn by most married women in India.⁹ The sari has a unique structure of unstitched clothing, and fulfils a variety of needs during the lifetime of its wearer. The sari embodies the essence of Shakti, the female creative principle. It consists of six square meters or more of cloth, often with intricate woven or printed patterns, and exemplifies the essential aspect of creativity (the body) as the manifestation of life. This dress highlights the navel; the intake of nourishment of a child which acquires a deeper meaning for women. It also highlights the breasts. It is versatile because it can be worn as shorts, trousers, a flowing gown or convenient skirt—all without a single stitch! A woman may express her emotions in different settings extremely effectively by the use of the *paluu*, which is the free end or the throw of the sari. It is a garment that brings out the feminine principle in women, and adds tremendous grace. Even when a village woman has to urinate in the fields, it provides a tent tied around the waist

with which she can cover her legs. It also is used by women to receive gifts. Old saris are recycled very effectively for making lovely quilts, furniture coverings, and curtains. Very old cotton saris are sold as polishing and cleaning cloths. It is a dress that makes the wearer the designer, and establishes the connectivity of the body, the female principle, and the universe.

Similarly, one finds many other familiar products in India such as cotton rugs, mats, low wooden seats, cooking vessels, transport vehicles, bullock carts, and maruta—the list can be long.¹⁰ The emphasis always is on improvisation, extending the human being rather than the machine, doing with less material, extending the product life, and finding new uses for the product. It is a different way of looking at products that characterizes the Indian approach to design. It ranges from “jugaad” (meaning crafty improvisation) to extremely subtle synthesis.¹¹ It is an approach not very amenable to a design environment in which the designer is set on a spotlighted pedestal in the hope that society will hold him in awe and internalize the design into the culture. The designer in traditional India is not treated as a demigod; he is only one element of a cultural team. Innovation per se has little meaning. It must contribute to the human development of ever-larger numbers. The overuse of products (or overcrowding) is not the issue. Just keeping the wheels rolling is the essence of living. When everything is moving smoothly, one is constantly reminded that there is more to life. There is a need to reach out. There is a compassion that must enfold. There is the Brahman to be realized.

Design in all cultures is built upon meta-theoretic constructs subscribed to by that culture. It is on these that the theoretic postulates and pragmatic experiential design propositions are based. The sustainability of design and culture is determined by the symbiotic relationships between the future of humans and the future of the environment. It is important to understand this framework. There is a need for a balance between the hedonistic-ascetic continuum on the one hand and the technical-emotional continuum on the other hand.¹² Indulgence in any of these extremes is bound to be catastrophic both at an individual level and at the cultural level. Every culture’s solutions to human needs can be mapped in such a space where the importance of the middle path is shown.

References

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- Sixteen Consecrations (www.urday.com/sanskar.htm), 10 September 2002.

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- 1 P.L. Berger and T. Luckman, *The Social Construction of Reality* (Garden City, NY: Doubleday, 1966).
 - 2 P.L. Berger, *The Social Reality of Religion* (London: Faber, 1969)
 - 3 The Website Karmic Menu has many articles discussing the same, and the reader may refer to: www.theosophy-nw.org/theosnw/karma/ka-selec.htm.

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- 4 The thirty-two primary vidyas are not separate books, but they are the thirty-two disciplines of knowledge. All of the books described on this page from beginning to end are categorized into one of the vidyas, depending on their discipline. They are:
 1. Rig Veda (hymns of praise)
 2. Yajur Veda (procedures of worship)
 3. Sama Veda (hymns for peace)
 4. Atharva Veda (magical spells)
 5. Ayurveda (medicine)
 6. Dhanurveda (warcraft)
 7. Gandharvaveda (dance and music)
 8. Tantra (connecting form with spirit, hedonism with spirituality. sex with spirituality)
 9. Siksha (vedic phonetics)
 10. Vyakarna (grammar)
 11. Kalpa (modalities for vedic action)
 12. Nirukta (etymology)
 13. Jyotisha (astrology)
 14. Chandas (metric composition)
 15. Mimamsa (inquiry into chants)
 16. Tarka (logic)
 17. Sankhya (a Hindu philosophical system that recognizes the existence of matter and the spirit and its interplay)
 18. Vedanta (essence of Hindu scriptures ascertaining the oneness of existence)
 19. Yoga (breathing, postural and meditation techniques for preparing the body and mind for self realization.)
 20. Itihasa (mythological history 'Thus verily happened')

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21. Purana (Hindu sacred literature dealing with primary creation of the universe, secondary creation after periodical annihilation, genealogy of gods and saints, grand epochs, and history of the Suryavanshi and Chandravanshi kings)
 22. Smriti (code of law) Hindu books giving detailed instructions regarding religious cum moral behavior of a man
 23. Nastikamata (agnosticism)
 24. Arthashastra (knowledge of wealth and finances, later a treatise on government and governance written by Kautilya 4th century B.C.)
 25. Kamasutra (eroticism)
 26. Shilpashastra (architecture)
 27. Alankriti (aesthetics)
 28. Kavya (poetry)
 29. Deshabhasha (linguistics)
 30. Avasarokti (repartee)
 31. Yavanamata (the mindset of the non vedic, foreigner)
 32. Deshadidharma (duty)

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- 5 The sixty-four Kalas or Arts as gleaned from notes on SRIMAD VALMIKI RAMAYANA 14.
See also: www.svbf.org/sringeri/journal/vol1no1/scriptures.html
1. Histrionic talents, drama, storytelling techniques, mnemonics, etc.
 2. Making musical instruments, simple mechanical devices, etc.
 3. Playing musical instruments (e.g., instrumental music including jalatarangam—creating music with water, percussion, and string instruments)
 4. Decorating, dressmaking, costume making, artful dressing, and personal grooming
 5. Ornaments and head adornments
 6. Singing and dancing; practicing fine arts
 7. Making beds and bedroom decorations
 8. Garland making, flower arranging, and making designs with grains on the floor such as *rangoli*
 9. Playing games such as dice
 10. Mastering eroticism as per Vatsyayana, erotic devices, and sexual arts
 11. Making honey, liquor, beverages, and desserts
 12. Plucking out arrows and healing
 13. Cooking, eating, and drinking skills
 14. Horticulture, forestry
 15. Breaking and pulverizing hard rock; mining
 16. Making medicines from herbs
 17. Sorting, mixing, isolating ingredients
 18. Making and using *astras* and *sustras*
 19. Wrestling, boxing, gymnastics, physical culture, bodybuilding, etc.
 20. Making ICBMs
 21. Parades, army bands and dharmic warfare
 22. Ratha, Gaja, Turaga wars (chariot, elephantry, and cavalry)
 23. Asanas, postures, and mudras
 24. Training elephants, horses, birds
 25. Making vessels of clay, wood, or bronze
 26. Drawing
 27. Making paints and painting
 28. Architecture, sculpture, house and temple construction, mosaic tiling
 29. Mixing air, water, etc. (air products and water products)
 30. Boats, ships, chariots, etc.
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31. Making threads, ropes, etc.
 32. Weaving and spinning
 33. Diamond, precious stones, and gems—distinguishing them from ordinary ones
 34. Alchemy, chemistry, and preparing ointments and unguents for charm and virility
 35. Jewelry making including artificial jewelry
 36. Gold plating; metallurgy
 37. Skinning and preserving bodies
 38. Leather technology
 39. Dairy farming
 40. Tailoring, sartorial skills, and embroidery
 41. Swimming and water sports
 42. Cleaning houses and vessels
 43. Laundering and washing
 44. Hairdressing and shaving
 45. Managing oil resources
 46. Having control over others' minds; spells, charms, and omens
 47. Tilling and agriculture
 48. Handicrafts including carpentry, furniture making, and furnishing
 49. Making vessels of glass, ceramic and pottery
 50. Drawing water and resources
 51. Gardening and fence building
 52. Caparisoning, dressing, decorating elephants, etc.
 53. Child rearing and pediatrics, including doll making and toymaking for kids
 54. Punishing guilty appropriately through law and order
 55. Learning languages/dialects (both native and foreign), literary excellence, semantics
 56. Preparing "tambool," etc.
 57. Composing impromptu poetry
 58. Preparing perfumes and cosmetics; playing poetry games; and oratory, elocution, prosody, and rhetoric
 59. Sorcery, conjuring, sleight of hand, magic, illusions, impersonation
 60. Composing riddles, rhymes, verses, puzzles, tongue twisters, and involved recitations
 61. Making swords and staffs; archery
 62. Training fighting partridges and rams, cockfighting, bullfighting, etc.
 63. Teaching parrots and mynas to talk; training animals; veterinary science
 64. Writing in cipher codes and languages; secret mantras; coding and decoding.
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- 6 There are sixteen sanskara described on the Website www.urday.com/sanskar.htm.
 - 7 The Holonomic worldview assumes a relationship between the part and the whole. The part has information and perception of the whole. Besides the part is created in the image of the whole. The Holonomic worldview also implies there is coherence from the moment of creation (the big bang) and now the present moment. The moment of creation can be experienced now.
 - 8 Readers may remember the trials related to the pandal in the recent movie *Monsoon Wedding*.
 - 9 A detailed study has been made by Chantal Boulanger (see www.devi.net/saribook.html). She has recorded more than one-hundred different styles of draping.
 - 10 Known alternately as a "jugaad," a "maruta," or a "boogi," the vehicle offers barebones transportation for Indian farmers at a low cost. For more details, see: www.j-bradford-delong.net/movable-type/archives/000327.html.
 - 11 Readers may refer to Google's cache of <http://straitstimes.asail.com.sg/analysis/story/0,1870,145975-1033336740,00.html> and to Steven Rudolph's musings on development in India. <<October...posted by Steve at 07:31proJogaad at <jiva.emegic.org/archives/2002/10/06/>
 - 12 Lalit K. Das, "Towards a Non-parochial, Non-partisan Framework for the Study of Design History" (Paper presented at the 3rd International Conference on Design History and Design Studies, Istanbul, Turkey, 9–12 July 2002.