

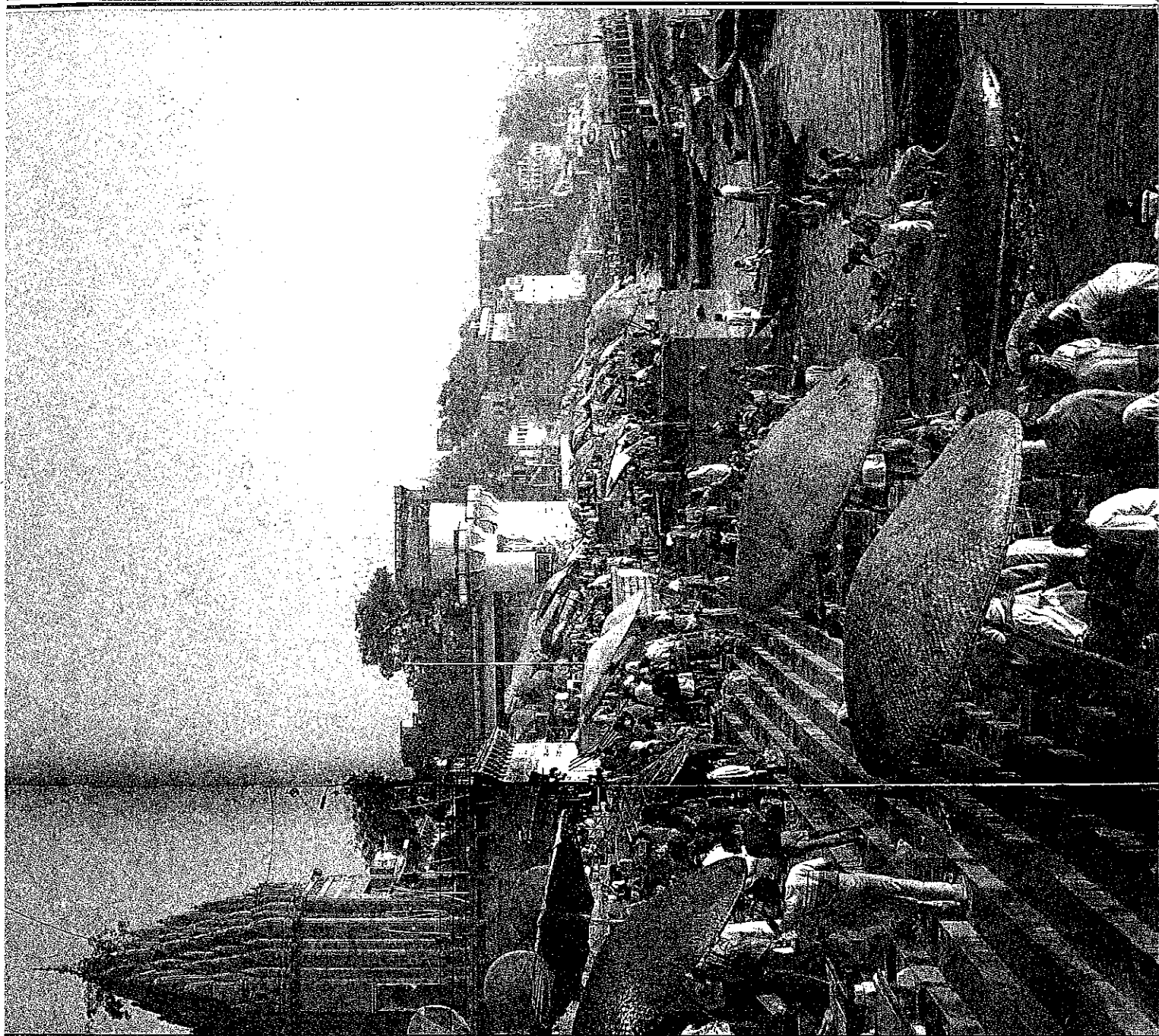
Time and the Universe

In India, science and religion are not opposed fundamentally, as they often seem to be in the West, but are seen as parts of the same great search for truth and enlightenment that inspired the sages of Hinduism, Buddhism and Jainism. Thus, in the Hindu scientific approach, understanding of external reality depends on also understanding the godhead.

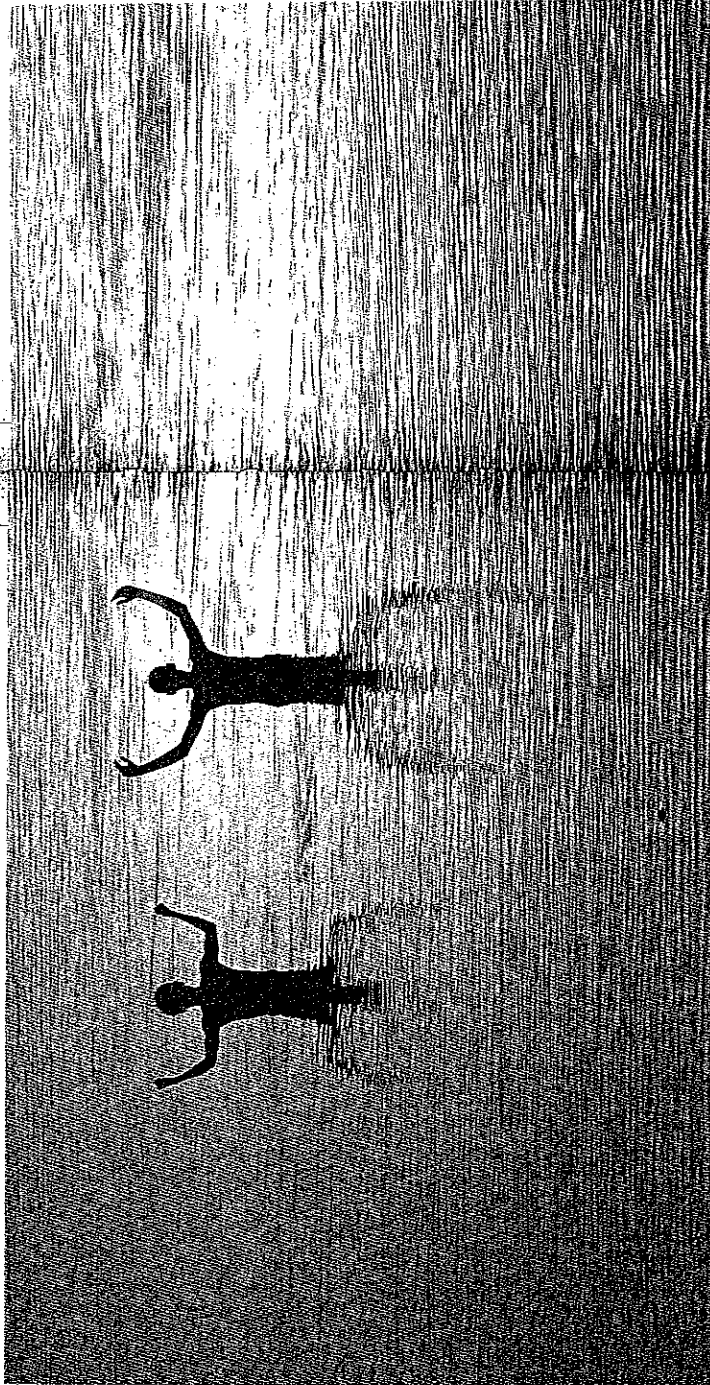
In all Hindu traditions the universe is said to precede not only humanity but also the gods. The Buddhists and Jains do not even recognize a creator; for them time has no beginning and no end. Jain cosmology and metaphysics are particularly elaborate; being at times sufficiently detailed to recognize "atoms" (*puṅgava*) as one of the five basic entities permeating the universe.

Fundamental to Hindu concepts of time and space is the notion that the external world is a product of the creative play of *māyā* (illusion, see pp. 130–31). Accordingly, the world as we know it is not solid and real but illusory. The universe is in constant flux with many levels of reality; the task of the saint is to find release (*mokṣha*) from the bonds of time and space.

Varanasi (right), India's most sacred city, is said to be outside the usual restrictions of time and space. Pilgrims come from all over the subcontinent to the "eternal city" to bathe in the holy river Ganges, where they hope to wash away negative karma acquired in the past. Varanasi has been a major centre of Indian philosophy, religion and science since the 1st millennium BC.



The soul



The *mantra*, "Tat Tvam Asi" ("Thou art That"), is the central dictum of the *Upanishads* (see pp.22-3). It defines the relationship between Thou, the *atman* (soul in every being), and That, the transcendent *brahman* (Absolute), which pervades the whole universe.

Brahman cannot be comprehended by the human mind; it is impersonal, infinite and immovable, beyond any definition. Although it is ineffable, there is a spark of *brahman* in every being, animating it with *atman*. We cannot grasp *brahman*, for it is not a distinct entity, but it might be visualized as sunlight upon the surface of a lake.

The *atman* is invariably described in negative terms, as it cannot be defined positively: it is intangible and indestructible, it cannot suffer nor can it die, for it is immortal in a mortal body. Yet although the *atman* is beyond human reason, the *Upanishads* taught that it is attainable by means of meditation, asceticism and yoga. No longer could the *brahmin* priests claim sole access to the Vedic gods and so to divinity, for the gods themselves could now be transcended by mystical experience. Rather than sacrifice, the main focus and goal of Hinduism was now *moksha* (release) — the ultimate freedom that comes with

the knowledge that *brahman* and *atman* are finally one and the same.

The 8th-century AD theologian Shankara gave perhaps the clearest exposition of these *advaita* (non-dualist) views. He stressed the distinction between the realm of *brahman* and the world of ordinary experience, in which our individual egos believe themselves to have separate identities. For Shankara, liberation was not only the realization of our identity with the Absolute, but also our recognition of the illusory nature of the world, which is produced by the illusions of *maya* (see pp.130-31). Shankara argued that

These two pujaris (priests) are bathing at twilight in the sacred Narmada River, Madhya Pradesh. Washing in holy water cleanses the soul and removes the bad effects of past karma.

reality exists at two distinct levels: ordinary and higher truth. At the ordinary level, the material world of objects and separate egos is real, but at the higher level it is illusory. The aim of the ascetic meditator, said Shankara, is to transcend the illusion of ordinary reality by uniting the Absolute with the soul.

Shankara's belief that there are no individual souls and that the Absolute is attainable through meditation, led to accusations that he was a crypto-Buddhist. In fact, he often attacked Buddhist doctrines, but there are similarities in the approaches of the two schools. The Buddha asserted not only that there is no separate soul, but that there is no soul at all: the doctrine of *anatman* (non-soul). The Buddha taught that suffering (*dukkha*) is caused by misguided identification with the individual self or ego, which is not eternal but temporary. The "I" that we imagine throughout life, is, according to the Buddha, both illusory and dispensable.

The Noble Eightfold Path (see p.35) was the Buddha's method of transcending the illusion of isolated selfhood by undoing the mental habits that keep the mind attached to a false idea of the self. From birth the concept of the self is protected and cultivated. The Buddha taught that the self which motivates our actions is the product of wrong desires. The self, the Buddha argued, does not exist, it cannot be found in the body, nor can it be defined; it is merely a word that is used to describe a temporary state.

The nature of death

Death is often likened to a night's sleep before rebirth. Just as we are the same person when we awake in the morning despite our consciousness having been absent for the night, so the *atman* (soul) passes smoothly from one body to another while consciousness sleeps. Only the body dies, which is a temporary shell whose components return to their sources when burnt by cremation — the "eye to the sun" and the "breath to the wind". The Hindu funeral liturgy does not talk of the past deeds of the dead person, but speaks directly to the soul — "depart, depart by the ancient paths of our ancestors" — for the soul is indestructible and will never die.

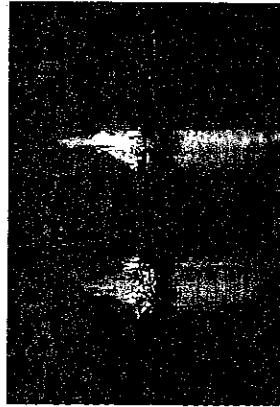
One of the most famous Vedic accounts of the cause of death is in the *Katha Upanishad*. A young *brahmin* man is sent to the Otherworld by an irritable father. He is the first human to visit the realm of Yama, the Lord of Death. Yama is busy and at first he ignores the *brahmin*. To atone for this initial discourtesy Yama offers the mortal three boons.

A statue of the king of death on the roof of the Korisha monastery.

For his third boon the *brahmin* asks to know the secret of death. Yama replies that death is an illusion caused by ignorance of the immortality of the soul which, according to the *Bhagavad Gita* (see pp.60–61), "is not slain when the body is slain". Yama concludes that the only way to escape death is to conquer it by transcending the individual self.

At the time of initiation, many *sadhus* (see pp.70–71) ritually act out their own deaths to represent the death of the individual self and the transcendence of the ego. However, these doctrines of the soul are not easy to understand and demand great emotional fortitude. In India there are many groups who do not believe in reincarnation, but say instead that the dead pass on to another realm, often in the Underworld.

Regardless of belief about the after-life, attachment to one's former life can be a major problem. Shady groves on the outskirts of a village may be the haunts of the dangerous ghosts (*preta*) of suicides, women who die in childbirth, and misers who died without revealing the whereabouts of their hoard. Belief that those unable to



Funeral pyres at the edge of the sacred river Ganges in Varanasi, considered by Hindus to be the most auspicious place to be cremated.

accept their death cannot move on, suggest there is some idea of a personal identity, which survives death.

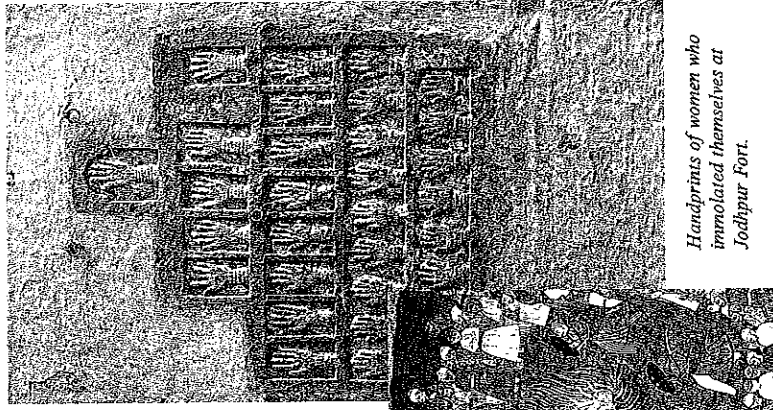
The traditional Hindu funeral method is cremation, the fire being seen as the means of conveying the soul to the next life. The sacred city of Varanasi is the most auspicious place to die; Hindus travel from all over India to be cremated there and to have their ashes scattered in the Ganges. The rituals that surround death are highly significant. At a *shradhha* funeral, for example, food is offered to *brahmin* priests for the benefit of the deceased. This rite is performed at least once a year to ensure the positive rebirth of the dead relative.

SATI

A widow who has immolated herself on the funeral pyre or grave of her dead husband is known as a *sati* (suttee). The word *sati* shares its root with the Sanskrit *sarya* (virtuous way or truth) and thus means a woman who has followed the right and virtuous path. The truest woman in Hindu mythology was Sati, Shiva's first consort (see p.74), in whose name widows sacrifice themselves for their husbands.

Self-immolation was widely practised in India before it was made illegal in 1829 and handprints, such as those on the wall in Jodhpur Fort, mark the spot where *satis* died after their husbands fell in battle. The British found it one of the hardest Indian customs to understand and sympathize with. In early 19th-century Calcutta there was an upsurge of widow-burnings, which may have been in response to the enormous cultural changes introduced by British rule. Since then there have been sporadic revivals of *sati* up to the present day.

This painting of a *sati* demonstrates the honour in which such action was held.



Handprints of women who immolated themselves at Jodhpur Fort.

JAIN DEATH

Sallekham is the Jain religious death of wasting away through controlled fasting. Jains share with Hindus and Buddhists the belief that correct action at the moment of death can directly influence the next birth. In keeping with their belief that the practice of austerity and asceticism can affect rebirth (*samsara*) by the burning away of *karma* (see pp.44–5), the ideal Jain death is one in which the mind is in total control of the body. Fasting "scours out" the body of its negative *karma*, and the mind is thereby free at the moment of death to concentrate on its spiritual destiny. One of the most famous Jain accounts of *sallekham* concerns Skhandala, a disciple of Mahavira, who abandoned food, drink and care of his body until, after rejecting sixty meals, he died, deep in meditation.

Concepts of time

The transcendence of time is the aim of every Indian spiritual tradition.

Time is frequently presented as the enemy, as an eternal wheel that binds the soul to a mortal existence of ignorance and suffering. "Release" from time's fateful wheel is termed *moksha*, and an advanced ascetic may be called *kala-aita* ("he who has transcended time").

The *Atharvaveda* (see pp.16-17) suggested that time was "the first principle", by which the universe was created and put into motion. It is, however, more common to read in Hindu texts of attempts to "cheat" or "vanquish" time. A verse from the *Mahabharata* (see pp.56-7) advises that "time 'cooks' all beings" and "destroys all creatures"; when everything else sleeps "time is awake, time is hard to overcome".

Time in Hindu mythology is conceived of as a wheel turning through vast cycles of creation (*sarga*) and destruction (*pralaya*), known as *kalpa*. Classical Hindu texts understand each *kalpa* to be a life of the creator god Brahma. He is said to live for 100 Brahmnic years, which are equivalent to 311,040,000,000 human years. The universe appears at his birth and is destroyed at his death. A new Brahma is born after a further 100 Brahmnic years and the cycle begins again. Each *kalpa* is made up of 1,000 "great aeons", which in turn are composed of four *yugas* (world ages). Each cycle of *yugas* sees a gradual deterioration of

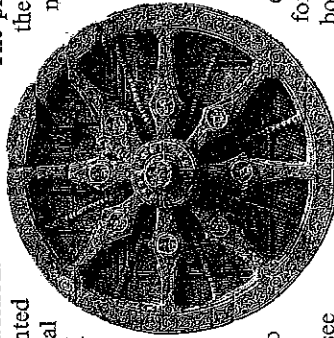
morality, awareness and well-being. The present age (Kali Yuga) is the last in the cycle and marks the point at which spiritual intelligence and morality have reached their lowest ebb.

The Jains see time as a wheel with six ascending and six descending "spokes" or eras. The wheel revolves for eternity - it was never born nor will it ever end. In Buddhism, time is the "devourer", the enemy of all living beings. The main reason why existence (*bhava*) is full of suffering (*dukkha*) is because of the passage of time, and a process somewhat like the idea of entropy. The Buddha's last words were said to begin, "All things decay..."

In the *Yoga Sutra*, time is conceived as a discontinuous series of "moments" (*kshanas*). Each "moment" represents the amount of time that it takes for an atom (*anu*) to shift from one position to another. Unlike the passage of time these "moments" are said to be real.

THE FOUR YUGAS

The first world age is Satya Yuga - the golden age of innocence and truth which is slowly tarnished until the arrival of the Treta Yuga, and the gradual decrease of virtue and length of life. Next is the Dvapara Yuga, in which the heroes of the *Ramayana* and *Mahabharata*, such as Krishna and Rama, are said to have lived. The world age in which we now live is Kali Yuga (the name is not related to the goddess Kali). This age is characterized by vice, violence, ignorance and greed.



A chariot wheel of the sun god, Surya, from the temple at Konarak in Orissa.

TANTRIC TIME

Tantra depicts time as a ladder which descends in clear stages of devolution from the original unity which preceded creation to the present world of differentiation and illusion. With the steps marked out in sacred texts, Tantrikas sought to "turn around" (*paravritti*) and climb back up the ladder. In doing so they would be reversing the usual process of time.

Whereas both Christian theology and Western physics understand the

origins of the universe to be a definable point far back in linear time that is now lost to us, Tantric science sees the creation as a continuous process, and one therefore that is always available to our understanding.

A common Tantric symbol depicts the past as being constantly projected from the present, like a flow of events being vomited from the open mouth of a monster. It is not that things began at some distant point in the past, but that the past is continually projected from and through the present

space-time "mouth" of our own consciousness.

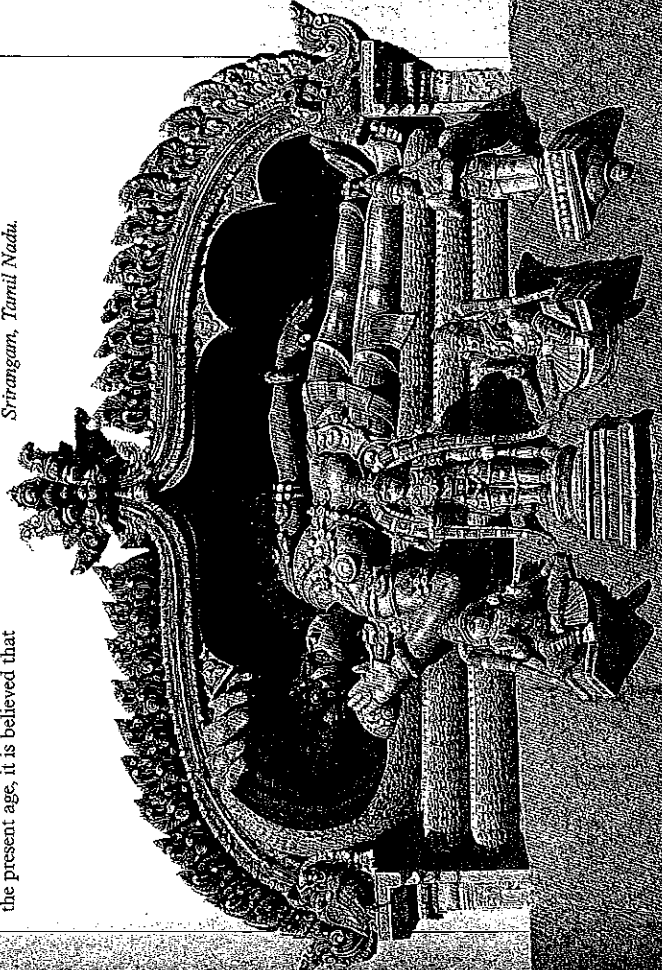
Since Tantra equates the inner consciousness with the higher consciousness that permeates the universe, Tantrikas believe that they can "turn around" the outer cosmic process of creation and devolution by "looking back" into the monster's mouth within. Therefore, through the process of meditation, Tantrikas can absorb themselves in the continuous act of creation that works through our individual and collective consciousnesses.

THE SERPENT OF INFINITY

According to Hindu belief, the universe is destroyed at the end of each *kalpa* (life of the creator god, Brahma). Between the destruction of the world and its re-creation, at the end of each cycle, Vishnu is said to rest in the coils of Ananta, the great serpent of infinity, while he waits for the universe to re-create itself. At the end of Kali Yuga, the present age, it is believed that

Vishnu will descend in the form of his tenth and final avatar - as Kalki, the warrior, riding upon a white horse. He will destroy ignorance, drive invaders from India, and save the good, from whom the people of the golden age, the Satya Yuga, will descend.

Vishnu asleep on the coils of the serpent Ananta, emblem of the timeless cosmos, in a polychrome relief on the temple at Srirangam, Tamil Nadu.



Maya

In much of Hindu thought *maya* is illusion, and what humankind understands to be reality is in fact the dream of Brahma (see pp.48-9). He is the creator god and great magician who dreams the universe into being. The dream itself is maintained by Vishnu, the Preserver, who uses *maya* to spin the complex web that we know as reality. It is not that the world itself is an illusion, only our perception of it. Whereas we suppose the universe to be made up of a multitude of objects, structures and events, the theory of *maya* asserts that all things are one. Rational categories are mere fabrications of the human mind and have no ultimate reality.

Rajneesh, one of the most famous of the modern Indian spiritual teachers (see pp.154-5), asserted that if the West had followed the Greek philosopher Heraclitus rather than Plato, the history of ideas would be very different and the concept of *maya* would be central to Western as well as to Eastern thought. Although Plato's teaching resembles *maya* when he writes that 'the visible world is a pale shadow of a true reality beyond', he believed that each aspect of the world had a separate, distinct identity. Heraclitus posited instead a theory which was based on the assumption of the inseparable interconnectedness of the universe. His Theory of Becoming asserts that all things are in a state of constant flux; always in the process of becoming something else. This hypothesis is echoed today, some 2,500 years later, by Chaos Theory, which the American science writer James Gleick defined as 'the science of process rather than state, of becoming rather than being'.



Pilgrims immersing themselves in the sacred waters of the Ganges River at Varanasi

WATERS OF ILLUSION

The Greek philosopher Heraclitus used a river as an analogy for his Theory of Becoming, teaching that one cannot step into the same river twice. *Maya*, too, is often associated with water, the medium that forever changes as it flows from place to place. Water is both a symbol and an agent of illusion. When Vishnu is compelled to lift the veils of *maya* for the benefit of his followers, water is never far away. A well-known Hindu parable tells of a sage who underwent such rigorous penance that he felt entitled to demand from Vishnu the secret of *maya*. The god responded by ordering the mortal to dive into a nearby river. When the sage emerged, he did so as a woman, oblivious of her former existence. After a lifetime of success and failure, happiness and tragedy, she finally threw herself in despair onto the funeral pyre of her husband, who had been murdered. The fire was instantly quenched by water. The sage regained his former body, and in that moment Vishnu appeared. "This is *maya*," he said, and the sage came to understand the nature of illusion and the workings of the universe.

Creation



Vishnu sleeping on the cosmic ocean, as depicted on a carved boulder set in a pond outside Kathmandu.

In keeping with the importance of sacrifice in Aryan India, one of the best-known Vedic creation myths relates the sacrifice of *purusha*, the cosmic man. The gods cut up *purusha*, took the quarter of him that was manifest in their realm and placed it upon the sacrificial fire; from this the Vedic deities Indra, Agni and Vayu were born, together with the cardinal points of the universe, animals, humans and the four *varnas* (orders).

Other accounts in the *Vedas* speak of a cosmic egg or embryo from which "the lord of creation" was born as the great oceans heated up. But later hymns were increasingly sceptical of such symbolism; the tenth book of the *Rigveda* includes a verse asking: "Who truly knows, who could here declare whence was born, whence comes this creation?"

Whereas in Western religions a creator god precedes man and the universe,

the Hindu gods are preceded by creation; the origin of the world is envisaged not so much as an act of creation but as one of organization, the making of order out of chaos. The universe is often said to be born from the sacred syllable *Om* (see pp.108-9), or from an inert void in which "there was neither being nor non-being ... death nor non-death", a single principle from which emerged the diversity of life. From this void desire was born, and from desire came humans, gods and demons.

In the *Bṛhadaranyaka Upanishad's* version of creation the universe was pure Self in the form of a man, existing alone without a Creator. It looked around and saw nothing but itself, shouted "I am!" but then felt afraid, and, "lacking delight", divided itself into two parts for company. The half that was She asked, "How can he unite with me, who am produced from himself?";

and she went to hide from him. She became a cow, but he turned into a bull and united with her; she became a mare, goat, sheep and ass, but each time he found her, and became himself a stallion, ram and buck, and the world was thus populated.

The half that was He then realized, "I am creation, for I have poured forth

all this." It was not that man was born in a god's image, but that all of creation was born from the cosmic man. God and humankind are thus of the very same flesh, that of the first being who wanted to be more, and so divided. "Anyone understanding this," the hymn concludes, "becomes, truly, himself a creator in this creation."



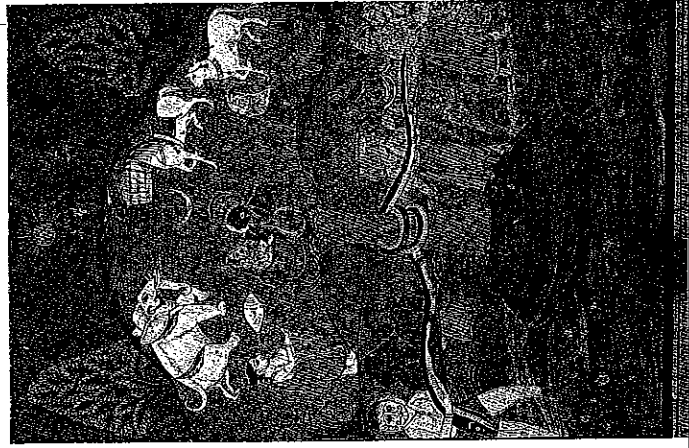
This pair of 6th-century carved panels belongs to a rock-cut shrine at Badami in the state of Karnataka. Varaha (far left), the third incarnation of Vishnu, is characteristically shown here as a boar, while Yamama (left), the fifth incarnation of Vishnu, is depicted pacing out the dimensions of the universe.



CHURNING THE OCEAN

One version of this myth tells how, soon after the universe had been created, the gods (*devas*) set out to churn the great ocean of milk to obtain *soma*, the elixir of immortality. Promising them a share, they invited the demons (*asuras*) to take the tail of the serpent Vasuki, wrapped about the giant churning pole like a rope. The pole was fixed to the bottom of the ocean and the waves it made in twisting one way and the other threatened to destroy the three worlds. Vishnu incarnated himself as the tortoise Kurma, taking the pole on his back to prevent the commotion. Glorious treasures emerged from the churned milk, followed by the goddess Lakshmi. A terrible poison then came forth. Shiva himself swallowed it, however, and by yogic power kept it in his throat so it would not harm him.

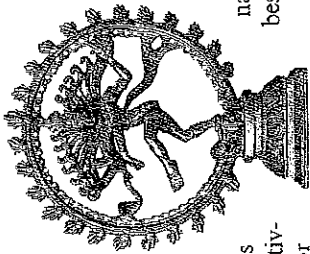
An 18th-century painting of the churning of the ocean with Kurma and Vasuki.



Shiva Nataraja

Throughout southern India, Shiva is worshipped as Shiva Nataraja, Lord of the Dance. In the words of Ananda Coomaraswamy, a pioneering Hindu philosopher and historian of Indian art, Shiva's dance is the "clearest image of the activity of God which any art or religion can boast".

Shiva's dance is a symbol of the unity and rhythm of existence. The unending, dynamic process of creation and destruction is expressed in the posture of the god. Shiva dances in a ring of fire that refers to the life-death process of the universe. Everything is subject to continual change, as energy constantly assumes new forms in the "play" (*lila*) of creation, except the god himself whose dance is immutable and absolute. The pictorial allegory of Nataraja indicates the so-called "five



acts" of the deity: the creation of the universe, its sustenance in space, its final dissolution at the end of the cycle of four world ages (*yugas*) (see pp.128-9), the concealment of the nature of the godhead, and the bestowal of true knowledge. The posture and balance of Nataraja's dancing form show Shiva in the aspect of *tamas*, the expansive centrifugal force that creates and destroys the universe. This is the first of the three "tendencies" (*gunas*) that permeate the universe in Sankhya philosophy. *Tamas* (darkness), symbolized by Shiva, is responsible for the constant birth, change and death of all things; the force *sattva* (tranquility), represented by Vishnu the Preserver (see pp.48-9), holds the atoms of every object together. These two "tendencies" — one holding the atoms of the universe

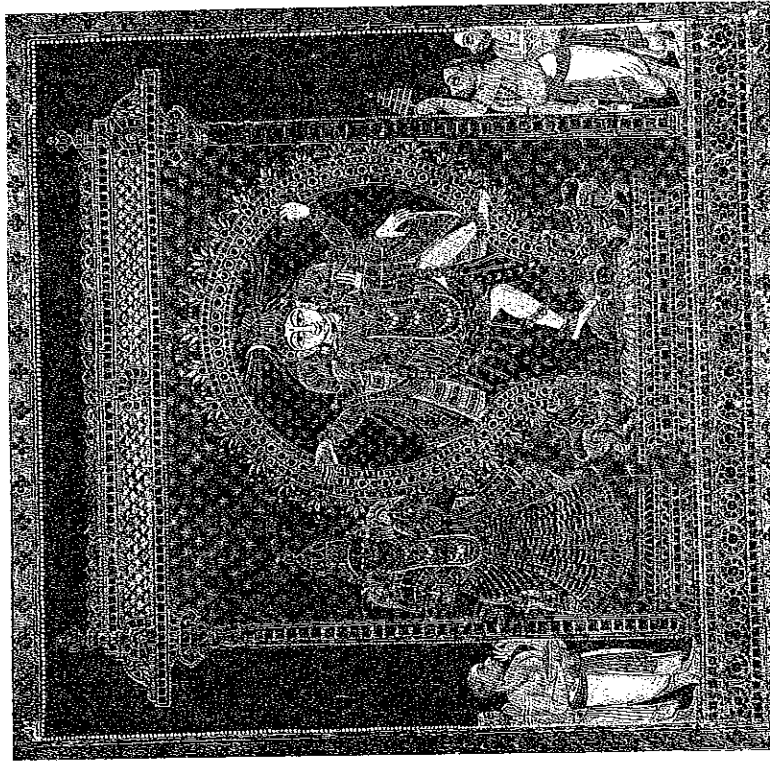
Shiva dances in a halo of flames symbolizing his radiating energy, as shown in a modern brass image.



The temple at Chidambaram in southern India is believed to mark the actual site of the dance contest in which Shiva emerged triumphant.

CHIDAMBARAM

Chidambaram, the mythical site of Shiva's cosmic dance, has been the centre of Shaivite art and thought for over a millennium. Its great temple, built by successive southern Indian dynasties between the 10th and 16th centuries AD, is dedicated to Shiva Nataraja, and is said to be the site of his legendary dance in the presence of his consort Parvati (see pp.74-5). Shiva's dancing icon resides in the Golden Hall, a symbol of the nucleus of the atom and of the centre (*bindu*) of the universe. The *Upanishads*, *Vedas*, *Puranas* and other sacred Hindu texts are represented by parts of the temple complex, the temple as a whole standing for the totality of Hindu knowledge. Shiva's dance to Parvati is celebrated in a great festival in December.



This 19th-century painting from Tanjore, Tamil Nadu, shows Nataraja with Parvati inside the Golden Hall at Chidambaram, with the atoms whose dance he symbolizes.

together and the other ripping them apart — create a "friction" (*rajās*) that "vibrates" the world's atoms and creates the gravity to hold them to the earth. This is the third tendency, symbolized by the deity Brahma (see pp.48-9). It is the building stuff both of matter and of subtle energies such as perception and thought.

Consciousness inhabits all things and has permeated the universe since it was created from its original *bindu* (energy centre). The first stage of the universe was filled by "space": the potential area in which the world will "expand" with

the energy of Shiva's aspect as *tamas*. At the end of Kali Yuga (the current "age of ignorance), the "expansion" accelerates, everything merges and Shiva performs the terrible *tandava* dance of destruction.

EINSTEIN

There is a striking resemblance between the equivalence of mass and energy symbolized by Shiva's cosmic dance and the Western theory, first expounded by Einstein, which calculates the amount of energy contained in a subatomic particle by multiplying its mass by the square of the speed of light: $E=mc^2$.

Jain cosmology

The Jain universe (*loka*) is the most intricate cosmological system to have emerged from India. In Jain cosmology, time and space have neither beginning nor end. The world is infinite, impersonal and has no moral function: it was never created, it simply exists. The *loka* itself is a vast arena of fantastic dimensions in which an infinite number of souls are continually reborn.

Jain philosophy divides the universe into two categories: *jiva* (soul) and *ajiva* (non-soul). *Ajiva* comprises five basic entities, *dharma* (motion), *adharma* (rest), *puṅgava* (atoms), *akasha* (space) and *kala* (time).

The *jiva* is said to be eternal, transcendent and made of "pure consciousness", motivated by an innate and absolute will. It is the *jiva* that experiences and perceives the world, through the eyes and ears of a body that is nothing more than an inert coagulation of atoms. The *jiva* controls every intellectual function of the brain, and is the sole recipient of spiritual knowledge and awareness. There are two types of embodied *jivas* – those that are motionless, including rocks and plants, and those capable of movement, including every insect, animal, god and human being. These forms of life are understood as being different, while also having inherent similarities, since all are *jivas* trapped in the inert matter of their bodily forms.

Of the many gods, demons, rocks, people and plants in whose forms the *jiva* is constantly reborn, only humans are capable of reaching *nirvana* in the course of their lives. This state of blessedness, in which the soul is freed from individuality and desires and

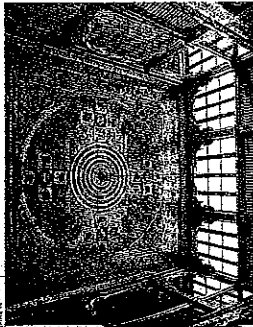
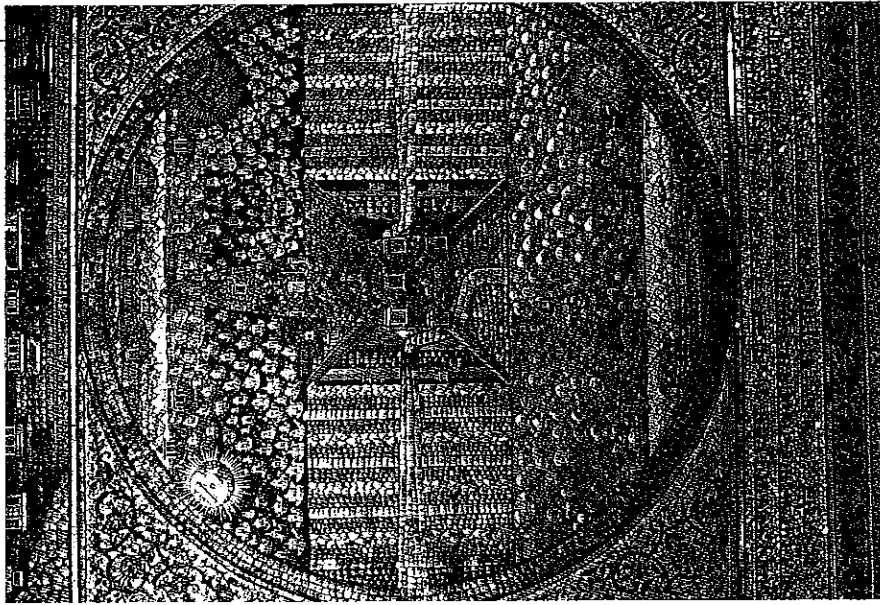
released from the effects of *karma*, is, in Jain philosophy, the ultimate goal of human endeavour, and is achieved through many lifetimes of discipline and asceticism. The gods are assigned inferior positions in the cosmology, although some of them are worshipped by Jains to win wealth or protection; because they live in heaven, their merit from good *karma* is sure to be quickly used up and they will be plunged again into the piteous round, reborn as dust, a rock, a river, a cloud, bacteria, a newt, a hell-being and so on. Every phase of rebirth may last for up to 700,000 years, the outcome being dependent on the soul's own actions and *karma*.

The first Jain text to deal with the principles of time and space was the *Yakyiyaprajnapiti* (*Exposition of Explanations*), initially compiled around the 3rd century BC and expanded later. This detailed what would finally become the customary shape for the *loka* – narrow in the middle with wider upper and lower sections. From the 16th century onward, the universe was widely depicted in the shape of a massive human form (*purusha*). This enormous entity has no will of its own, but is just a coagulation of non-soul matter held together by the delusion of the constantly transmigrating *jivas*.

The earth plane, where humans live, is represented as the middle level of the universe. Below are seven layers of hell, ending with the darkest, most cruel level at the universe's feet; above are fourteen increasingly celestial levels inhabited by different classes of gods. At the very top is the "slightly curving place", where liberated souls finally reside free from further rebirth.

MOUNT MERU

The world axis in Jain as in Hindu mythology is symbolized by Mount Meru – the mountain that is the centre of the universe, around which are rings of seven oceans, seven continents and the continent Jambudvīpa, and to its south, flanked by the Himalayan mountains, is Bharata, the legendary India of old. All the major gods have heavenly kingdoms on or near it, and its roots reach down to the infernal regions.

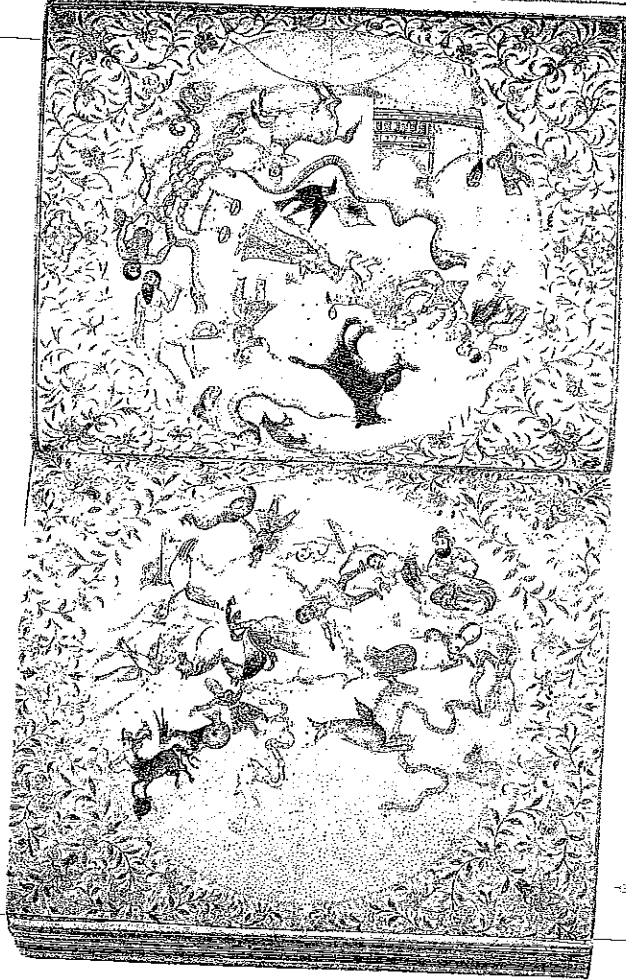


The mosaic ceiling in the Kanch Mandir at Indore in Madhya Pradesh depicts the Jain universe; Mount Meru is represented in the middle.

TIME

The first age of the descending cycle is an era lasting many millions of years. In this most golden age, people are born 6 miles (10km) tall as perfect boy-girl twins that later marry and live in bliss, their every need satisfied by ever-bounteous wish-fulfilling trees. After three gradually degenerating world ages, sorrow enters the world and the Formmakers (see pp.42-3) appear to offer release. This world age is

known as *dvaitcha* (sorrowful), the 21,000 year "uneven age". In the darkest world age at the bottom of the wheel of time, Jainism dies out and people live as dwarfs in shelters and caves. When it can get no worse, the ascending cycle begins, saviours appear to resurrect the Jain religion, and the golden age returns until it descends again, and the wheel of time continues to revolve for eternity.



A 19th-century manuscript showing the eastern and western hemispheres of the heavens.

• Astrology – throughout antiquity synonymous with astronomy – is known to have been practised in India for more than 1,500 years; its roots may be as old as that again. It was born from the merging of two great traditions – the *Jyoti* science of divine astronomy outlined in the *Puranas* (see p.49), and the Western system of natal (birth) astrology developed by the ancient Greeks.

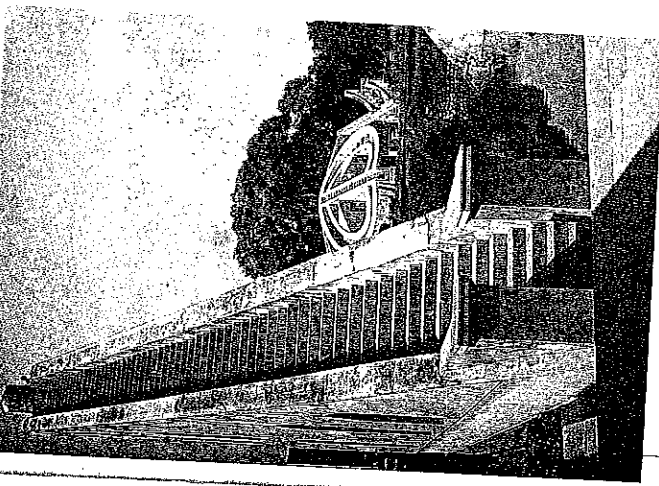
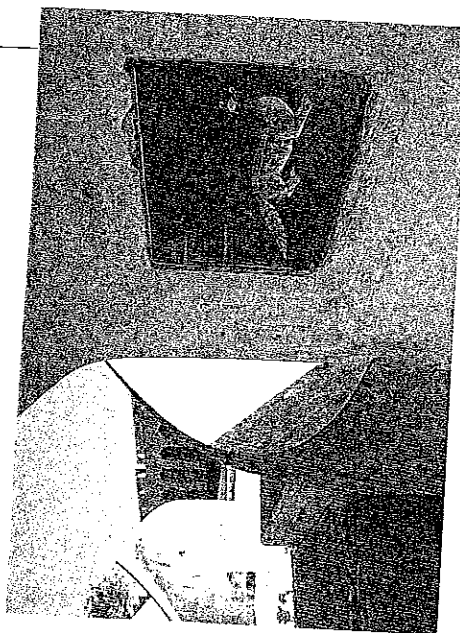
Indian and Western astrology have much in common, each recognizing the zodiac and the rule of the planets over the "signs". The earliest astrological texts in India were called the *Yavana-jatakas* ("Greek birth astrology"), showing a typical absorption of foreign influence; but it was not long before *Jyoti* elements began to re-emerge. The

resulting blend of Western and indigenous thought inspired a remarkable era of Indian astrology and science. The new astrologers had the benefit of both traditions and, realizing that the model of a flat earth could not account for the difference in the positions of the stars in India and ancient Greece, they evolved a new model, that of a spherical earth. Perhaps the most important difference between modern Western and Indian astrology is that different systems are used to measure the passage of time. Where the West uses the "tropical" system to coordinate the zodiac with the actual rotations of the stars, India uses "sidereal" time. The sidereal system is based on the position of stars in the sky, while the Western tropical model is a more abstract concept.

BRANCHES OF ASTROLOGY

Muhurta is "electional astrology", which divines the correct moment at which to begin an enterprise. *Vivaha* is "marriage astrology", which decides the eligibility of a couple and the most suitable time for marriage. It is common practice to advertise for marriage partners in India's newspapers, giving the astrological chart of the intended spouse.

Jaipur's observatory, used to view the *Capricorn* zodiac.



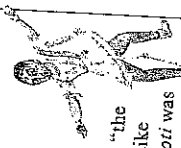
The steps at the *Jantar Mantar* (the 13th-century observatory at Delhi) are flanked by a calibrated scale for measuring the movement of the planets.

ASTRONOMY

The *Jyotis* ("lights" or "heavenly bodies") were first studied in the *Vedas*, a group of ancillary commentaries known as "the limbs of the *Vedas*", in c.400bc. Like the early astrology of the West, *Jyoti* was considered a science, incorporating philosophy, astronomy and mathematics.

These first astronomers, or *Jyotishas*, were largely concerned with establishing a religious calendar, based upon the movements of the moon as it passed through groups of twenty-seven or twenty-eight stars (known as "lunar mansions") in an apparent monthly cycle. Faced with the problem of the moon's irregularity from month to month, the *Jyotishas* set out to discover a longer cycle, when it repeated itself exactly; this they found to be nineteen solar years.

The main function of the *Jyotishas* – who were *brahmin* priests – was to use their knowledge of the stars to work out the most auspicious times for sacrifices to be held. Since the well-being of a kingdom was considered to be dependent upon the major sacrifices being carried out correctly, the role of the astrologer / astronomer was fundamental. An amendment to the *Atharvaveda* declared that "a king without an astrologer is like a boy without a father".



Hindu Temples

It was the resurgence of Hinduism in India from the 5th century AD onward that initiated a major stage in the development of religious art and architecture. Hindu temples had previously been built from wood, but imitating the examples of excavated Buddhist sanctuaries (see pp.36-7), Hindu architects began carving them from solid rock, affirming symbolic links with mountains and caves, the traditional homes of the gods.

Rock-cut temples mark a high point in technical skill and architectural imagination. Probably the most spectacular "mountain temple" in India is the so-called Kailasha at Ellora, in the modern state of Maharashtra. Carved out by the kings of the Rashtrakuta dynasty in the 8th and 9th centuries, the temple was created by removing gigan-

tic amounts of solid stone from the mountainside before completing the sculptural embellishments of the exterior and interior of the building.

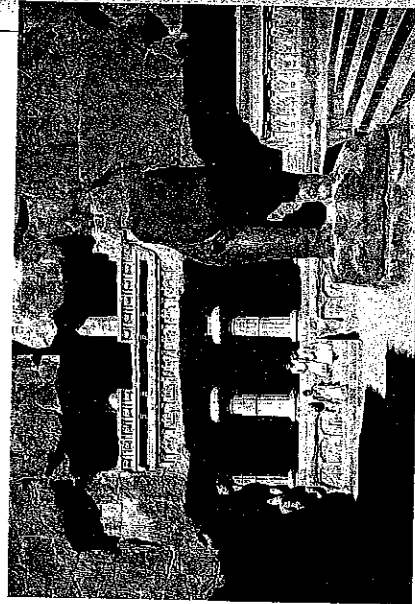
At about the same time as the Kailasha was being created, structural techniques in architecture were being developed for temple projects. The Pallava kings who governed the Tamil country from the 7th to 9th centuries were important in these endeavours. Their capital, the ancient city of Kanchipuram, contained over one hundred Hindu shrines, each with a sanctuary distinguished by a pyramidal masonry tower. The achievements of the Pallavas were sustained in the 10th and 11th centuries by their successors, the Cholas, who were noted for erecting temples with great spires, as at Thanjavur, Gangaikond-acholapuram

THE ELLORA CAVE-TEMPLES

The term "cave-temple" fails to convey the magnitude and magnitude of the Ellora caves, situated near the village of Ellora in western India. The achievement of the Rashtrakuta architects may be compared to the carving of an entire cathedral out of solid rock.

There are thirty-two rock-cut temples in the Ellora complex. These are dedicated to the Hindu, Buddhist and Jain faiths and were built between the 6th and 9th centuries AD. The Kailasha temple, dedicated to Shiva and Parvati (see pp.74-5), is the centrepiece of the complex and stands 165 feet

(50m) long and 96 feet (29m) high. Free-standing "pillars of victory" are positioned around its central courtyard which houses galleries that are filled with icons and narrative reliefs.

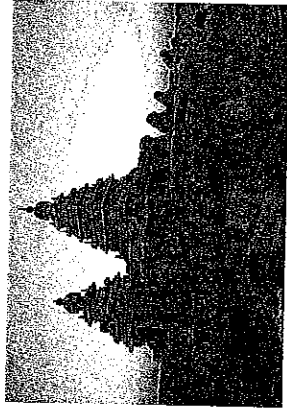


This view of the courtyard of the Kailasha temple at Ellora demonstrates how the gallery and pillars have been cut from the rock-face. In the foreground stands a statue of an elephant.

THE TEMPLE AS MANDALA

Hindu temples are believed to be the earthly abodes of gods and goddesses. Each temple is built to uniform rules of sacred architecture and is devised to entice deities to take up residence. The building of temples was treated as a form of *pūjā* (worship), a ritual that provides access to divinity. Like a three-dimensional *mandala* (see pp.100-101), the temple was thought to be a microcosmic representation of the universe. At its centre is the icon of the deity, surrounded by images of his or her retinue, arranged in decreasing order of precedence to denote a divine hierarchy. Above the *sanctum sanctorum* (*garbhagriha*) in which the deity resides is the temple tower, representing Mount Meru, the mythical axis at the centre of the cosmos (see p.137).

Temple towers at Madurai (right) and Mamallapuram (below).



and Chidambaram. The central shrine at Thanjavur, major capital of the Cholas, is built entirely of granite, rising to a height of 207 feet (63m), making it the tallest shrine in southern India. The Thanjavur temple is celebrated for its stone and bronze sculpture, as well as for the narrative murals that cloak the interior walls of its dark passageways.

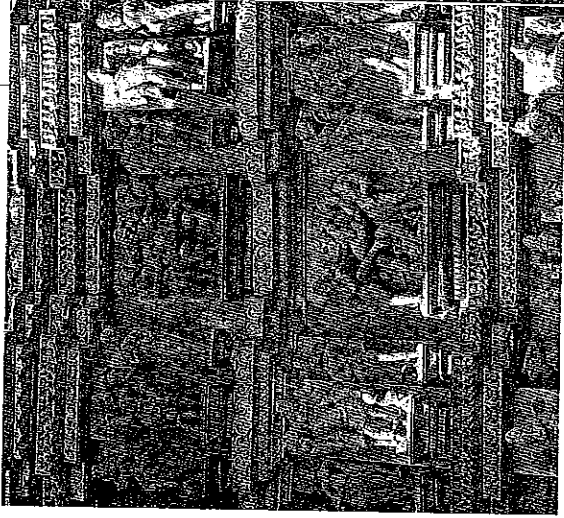
Subsequent dynasties refined original Chola models, adding more shrines and surrounding them with enclosure walls with impressive towered gateways

known as *gopuras*. These massive structures stood twice as high as they were broad, looming not only over temple complexes but also over entire towns and their surrounding fields. The number of storeys on each *gopura* was generally uneven, the levels diminishing as they ascended until they reached the summit which was represented by a vaulted roof-form with arched ends. In the 16th and 17th centuries, a renaissance of Hindu religion and culture in southern India under the kings of the Vijayanagara empire and their

MAGICAL PROTECTION

Because of its sacred function as the home of the divine, the temple is vulnerable and needs to be shielded from unwanted negative forces, such as the Asura demons who wage a constant war against the *Devas* (gods). For this reason, doorways and openings are invariably guarded by armed figures. But protection extends beyond the mere show of weaponry. Auspicious river goddesses, recognized by aquatic monster – or tortoise – mounts, emblematic of the Ganges and Jumna, are a common sight. So too are amorous couples, their limbs entwined in a variety of intimate embraces. The sexual energy of these couples is identified with the forces of nature which ensure magical protection. Scenes with conjoined couples are found at the doorways of many Hindu shrines. In some temples, as at Khajuraho and Konarak, they form major compositions in their own right, signifying the magical protection required to guarantee the successful life of the temple.

Sexual energy is considered a strong magical force and is often represented on temple walls, such as this 11th-century temple at Khajuraho.



the deity to whom the sanctuary was dedicated, usually a form of Shiva, Vishnu or the mother goddess. But this sculptural profusion was by no means restricted to celestial personalities, since a whole range of lesser creatures also populated Hindu art. They ranged from aerial musicians, singers and dancers to fierce guardians clutching clubs and other weapons. Animals and birds also made an appearance, in particular those creatures which were the “vehicles” (*vahanas*) on which the gods and goddesses rode. Fantastic beasts with leonine heads and bodies, known in southern India as *yalis*, were ubiquitous. They decorated niches and arches, and were prominent motifs at the summits of temple towers.

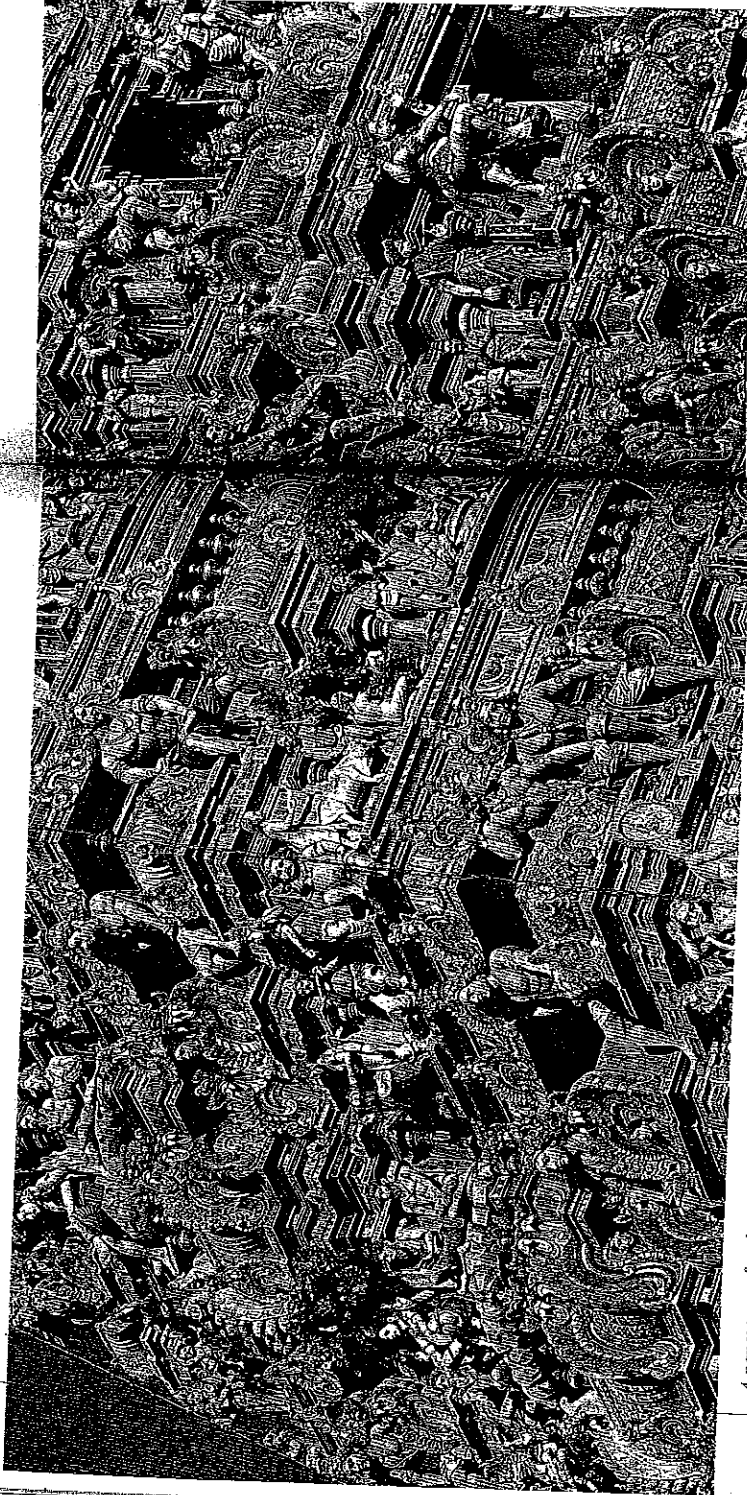
A panorama of gods, goddesses, semi-divine beings and lesser figures populates the tower of the 18th-century Kapalishvara temple, Madras.

representatives once again led to a revival of temple building. Earlier religious institutions were renovated and expanded, giving rise to the invention of great temple cities with multiple shrines and rows of *gopuras* leading to the focal sanctuary. This building programme was partly due to the Hindu religion's affirmation of the temple as the central institution in sponsoring religious thought, literature and art.

Temples were not merely places where divinities were housed in order to receive worship from their devotees, they were in themselves representations of the heavenly realms. That the temple was conceived as a pantheon of gods

and goddesses is evident from the carved and painted figures that covered their exteriors and interiors, and which comprised the most significant motifs in Hindu sacred art; this is particularly true of monuments in southern India. Large numbers of divinities populated the different tiers of the temple, ranging from the lowest levels where shrines were elevated on plinths, to the towers that soared over sanctuaries and entrance *gopuras*.

From the 16th century onward, the temple spires in southern India were covered with vivid, polychrome figures modelled in plaster. They depicted the major aspects and “family members” of



The Mughals

The first and last great Mughal emperors of India, Babur and Aurangzeb, were poets. Although the first Islamic incursions into India were marked by violence and destruction, the Mughal emperors who ruled from 1526 to 1707 were generally tolerant of the indigenous religions. Their extravagance and power were reflected in the splendour of Mughal art and architecture.

The first Muslims to reach India were Arab merchants who arrived in the Punjab and the Sind in the 8th century AD to trade with local Hindu kings. From the 12th century, Turkish and then Afghan Sultans sent raiding parties into northern India on an almost annual basis. By 1340, the Sultanate of Delhi ruled twenty-four provinces, including parts of the Deccan and of the Malabar coast (in modern Tamil Nadu and Kerala). During the 15th century, the Hindu Vijayanagar and northern Rajput dynasties checked Islamic expansion in India, until the arrival of Babur, the first Mughal emperor, in 1526. Whereas the Delhi Sultanate have been seen as foreigners who plundered India for their own gain, the six great Mughal emperors are often said to have been Indians who happened to be Islamic. The Mughal period saw a

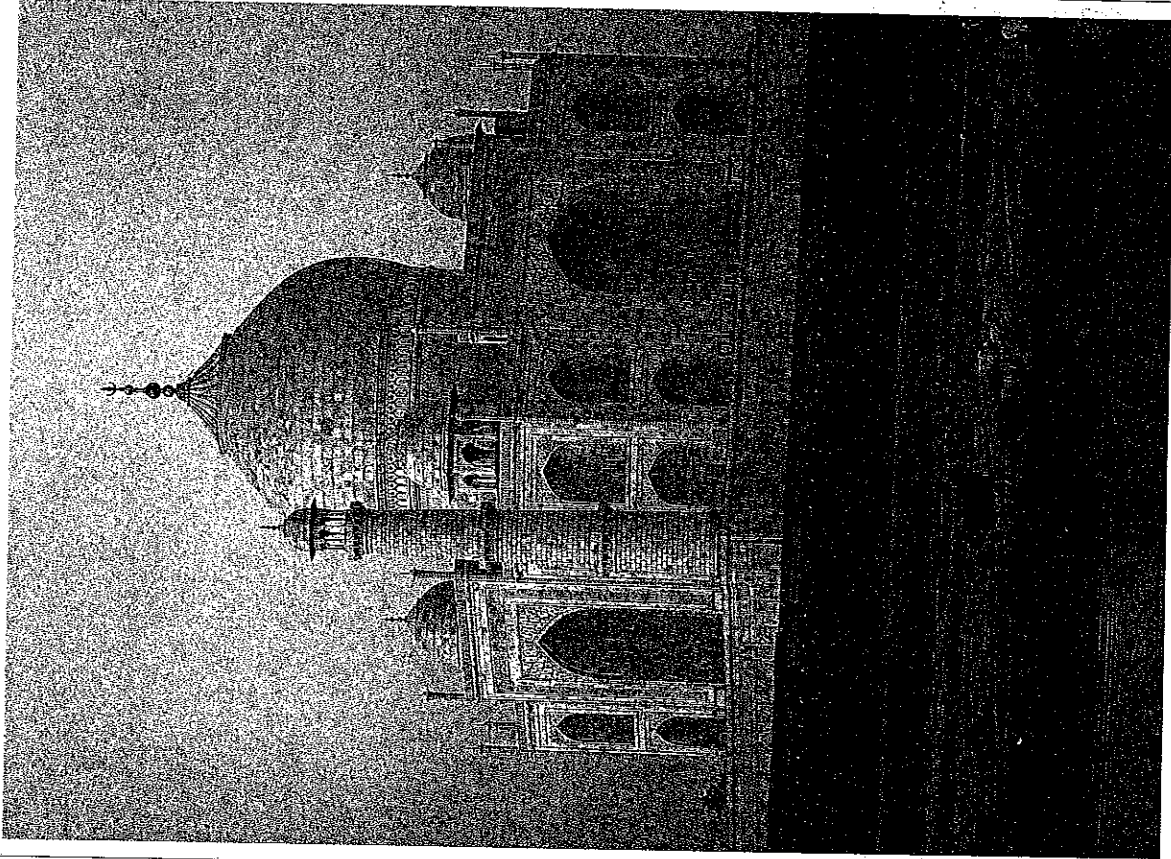
gradual fusion of Hindu and Islamic thought, art and architecture. Akbar (1556-1605), who was perhaps the greatest emperor, took the daughter of a Hindu king as his wife, and the Mughals that succeeded him thus had Hindu as well as Islamic forebears. The Mughals employed Hindu generals, administrators, philosophers and artists in their courts. Their massive building programmes were only achieved by complete cooperation between the Mughals and local Hindu dynasties, and the most splendid mosques and mausoleums were built and carved by Hindu as well as Persian craftsmen. Whereas Hindu temples symbolized the outer universe with its multitude of gods, the Mughal mosques were built to symbolize Allah, the "one true god". Allah has many names but cannot be depicted. Instead of crowded images of personified divinities, Mughal mosques are light and airy and decorated with abstract geometric designs. As Islam teaches the ideas of burial and an after-rebirth) the emperors' tombs became a major form of Indian architecture. Huge mausoleums, such as the Taj Mahal and Akbar's tomb in Sikandra, are among India's finest buildings.

AKBAR'S TOLERANCE

Although it was Babur who founded the Mughal dynasty, Akbar is credited with being its greatest emperor. At the age of seventeen, he seized power from his advisers, and during the half century of his rule Akbar built an empire that was perhaps the most

sophisticated culture and economy of its time in the world. Every official was paid a salary in coins, peasants were taxed according to their yield and, unlike their feudal counterparts in Europe, they had full rights of ownership over their land. Akbar did not attempt to subjugate but co-existed with the Hindu

population of India. He wooed the Rajput kings by marrying the daughter of Raja Bharmal of Amber in 1562. In 1563 he abolished a tax that had been exacted from Hindu pilgrims on their way to sacred sites, and the following year he repealed the hated *jizya* poll tax paid by every non-Muslim.



The Taj Mahal was built on the southern bank of the Yamuna river, outside Agra, by Shah Jehan in memory of his beloved wife, Arjumand Banu Begam, also called Mumtaz Mahal ('Chosen One of the Palace'), from which the building got its name. The entire complex took over twenty years to build, employing more than 20,000 labourers.