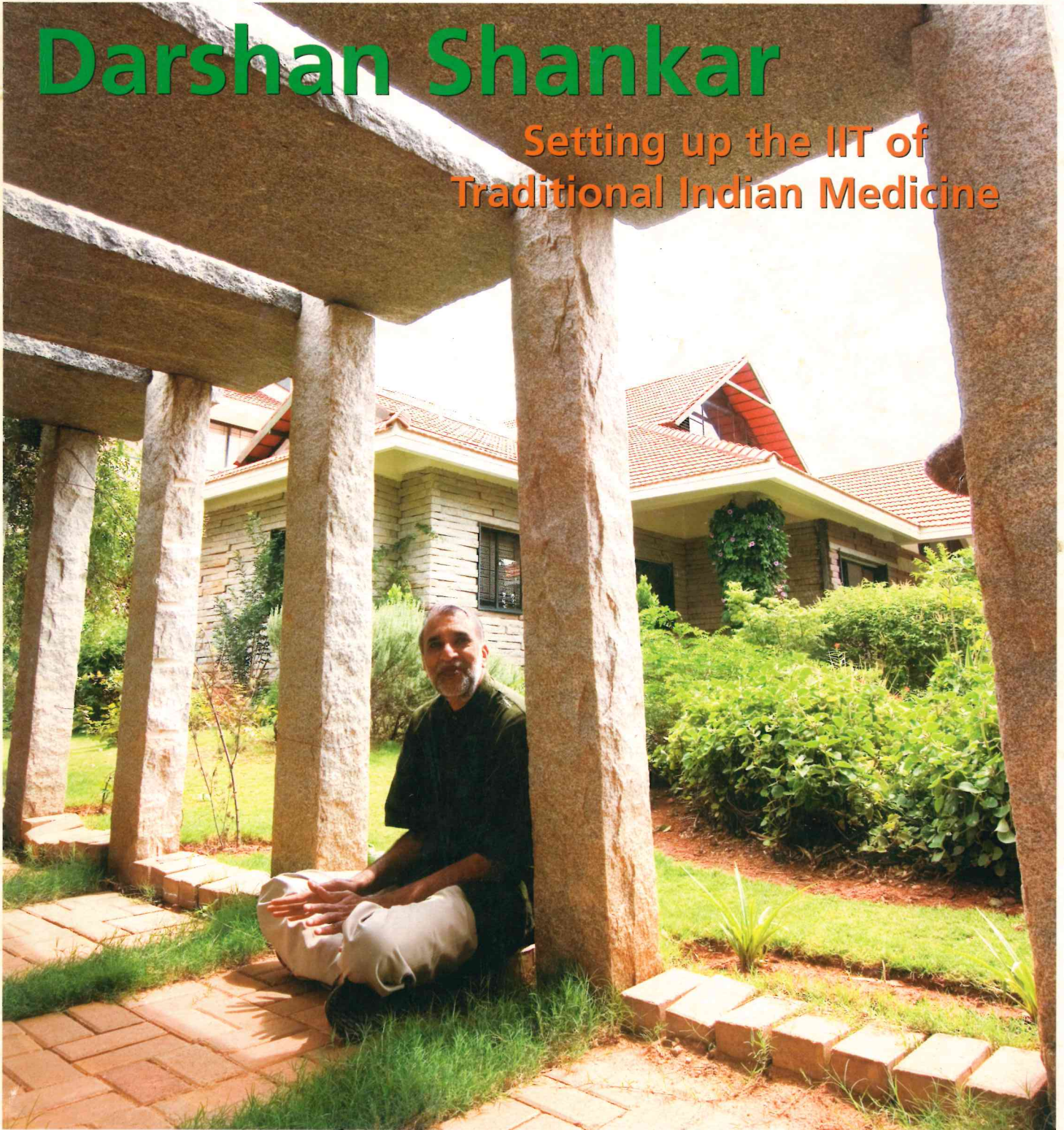


HOUSECALLS

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Darshan Shankar

Setting up the IIT of
Traditional Indian Medicine



Drs Mullapudi V Ratnam and Prema Dhanraj: Out of the ordinary
Bagru: The romance in the imperfection of natural colour

DARSHAN

Revitalizing Indian systems of medicine



SHANKAR:



INDIA, like most traditional societies in South America or Africa, has a wealth of medical knowledge. There were not only the codified systems of medicine, such as Ayurveda, Sidha, and Unani, whose practitioners had knowledge of plants, minerals, and metals, but there were traditional healers who could treat poisons or broken bones with medicinal plants through knowledge gained orally or handed down as a family heritage. Besides, every household knew how to treat simple problems with the plants available in their backyards. This included the humble grandmother who knew how to treat a bleeding knee with turmeric paste, or a cough with *tulsi* leaves.

With Western medicine sweeping across even remote corners of India, people are not only abandoning these traditional cures but have begun to believe that injections (of any kind, even with water) are a panacea for all illness. In time, much of indigenous medical knowledge will be lost if it has not already been.

If traditional medicine is ever to be revived and receive its place of honour among world medical systems, it will be, among other things, due to the efforts of Darshan Shankar and his team at the Foundation for Revitalization of Local Health Traditions (FRLHT) in Bangalore. The institute has already won the Rosenthal Center award for complementary and alternative medicine from the medical school of Columbia University, New York, for its "International cultural stewardship".

Ratna Rao Shekar and **Kamal Sahai** meet Darshan Shankar and his team in Bangalore, before setting off on a search of the traditional healers in remote corners of south India



Dr K Haridasan, joint director, FRLHT



Dr Padma Venkat, joint director, FRLHT:
Validating scientifically the claims of Ayurveda

Hinduism, it is said in an oft-repeated cliché, is not a religion but a way of life in India. Medicine too was not a mere curative science that was invoked in times of serious illness but a philosophy of living right. "Ayur-veda" itself means science of life. Hindus, or the people living on the land where the Indus flowed, did not have to be told about the beneficial properties of trees and plants, or how to go about preserving them in forest reserves. They did not need the stamp of science and laboratories to tell them, for instance, how beneficial *tulsi* was. Every woman of the house used it to cure simple health problems (including malarial fevers and coughs), and would not dream of beginning the day without a prayer to this plant that was grown in the backyard of the house, in proximity to the kitchen.

Left: The herbarium of medicinal plants in the courtyard of FRLHT

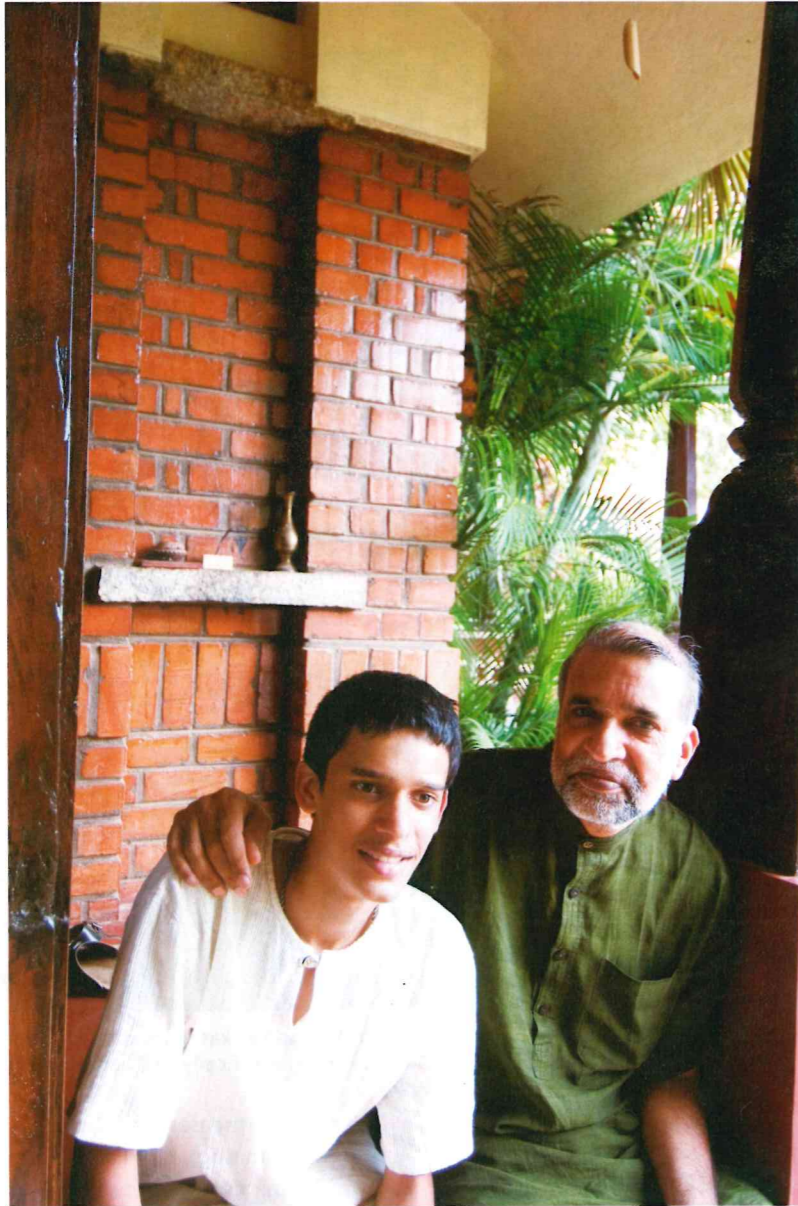
Much before we were swept by Western thought, childhood was replete with memories of such rituals, stories, and myths. I recall going to the local market on Ganesh Chaturthi to buy not only a crudely made mud idol of Ganesh but various wild plants, grass, fruits, and flowers with which to propitiate the pot-bellied elephant god. We thought it was fun flinging these leaves and grasses on the god during the *puja*, and no one minded that we took such pot-shots at him, for not only was Ganesh a benevolent deity but the religion too was kindly. It was another thing that the religious rituals were clever, for into them were interwoven prayers with plants and fruits whose medicinal benefits we are only now beginning to comprehend.

There are almost 39 medicinal plants used during the Ganesh *puja*, and these include, to mention a few along with their medicinal benefits, *bilva* (used to treat diarrhoea and jaundice), *punnaga*

(used in eye diseases), *mallika* (to suppress vomiting), *bakula* (to treat dental disorders), *parijatha* (for sciatica), *ketaka* (to treat osteoporosis and dysentery), *jambu* fruit (to treat diarrhoea), and *durva* grass (for bleeding, piles, and skin disorders).

The remarkable thing about this medical knowledge in India was that it was not confined to institutions nor did it inhabit the domain of physicians' clinics alone. Even the so called "ordinary people" (who were actually quite extraordinary until the twentieth century), especially mothers and grandmothers, knew about the medicinal effects of many plants and the nutritive value of foods, even if it was left to the *Charaka Samhita* to explain the *gunas* of the plant and why they worked in the way they did during certain seasons and for certain people.

As a young person I may have resented sitting through some of the rituals that we were required to attend. When we would much



I have a dream: Darshan with his son at their home in Bangalore

When however the time came when I myself had to perform a *havan* in our new home, it was with humility that I stood in front of the fire and placed the offering of several things, including *jav*, sesame seeds, rice, *ghee*, incense, and sandalwood. By then it had dawned upon me (even if somewhat late in life) that these were not empty rituals but underlaid with deep significance. That, in fact, each element we were offering to the fire had a different connotation, apart from which, just inhaling the smoke of a holy *yagna* had the ability to cure ailments of the lungs and the respiratory system. Smoke rid the new house of evil spirits, besides insects. A *havan* is in essence a purifying ritual, and just as fire purifies everything it touches, we too perform a *havan* that we may become pure.

The priests went about reciting the mantras with each offering we made to the fire. Was this probably to teach us that our hands should never be empty of offerings? That we should continually give, and that too with every breath we take? The priest continued to say, *Idam namaha, idam namaha*, which meant, "Not for me, but for You". This was a reminder that everything we do in life must be for others, for God,

Even Darshan who wants to take the indigenous systems to the world says the concept of *vatha*, *pitha*, and *dosha* in treating a human body cannot be explained in Western scientific terms. In any case, why should Western science be the only standard for progress and civilization? Let us ask Western medicine, as Darshan says, to treat a person according to the concept of *panchamahabhootas*!

rather listen to Lata Mangeshkar singing on the radio, we were obliged to listen to a Brahmin priest chanting mantras for hours together. This was particularly so during the *havans* that were conducted as part of the purification ceremonies at home when the fire would billow and rise to a crescendo as we poured spoonfuls of *ghee* into it.

for the world, rather than for selfish motives.

Why is it then that we have become so alienated from our own philosophy that these rituals have degenerated into a farce, or we have let them become so? The European mind was unable to comprehend why the Hindus considered every plant, every tree, and every stone sacred, and in



Vaidya Ramesh Nanal of Mumbai: How can you compare a 5,000 year old medical science with one that is not even 500 years old?

their ignorance called the Hindus idol-worshippers. Why is it that we ourselves do not understand the depth of our philosophy, where every fruit and flower that is used in prayer is not for mere ritual but of the greatest significance to bodily health, and that the sounds of the mantras themselves heal the person? Everything we use in prayer has some significance: even the copper vessel that is used in temples to serve *teertham* is not used because there is something "holy" about copper but because copper is proven to kill the bacteria in water!

These days they call it holistic healing, but in Indian medicine there is no other way of treating a human being except to see him as a whole. We are not a mere collection of bones, tissues, arteries, and muscles but, according to Indian medicine, we comprise the body, mind, and that intangible thing called soul. Not only does the mind affect physical health, but the soul has its own karma to work out; our present ailment may in fact be a residue from a

previous birth. This may sound esoteric, but Indian systems of medicine believe that the soul is eternal; has a life of its own that it fulfils through a physical body. That is why it is not all that strange that great sages were able to leave their physical body, which may

have been known as Ramakrishna Paramahansa or Bhakta Tukaram, at will, and free their soul.

The human mind, as opposed to the brain, is itself the manifestation of the spirit in the human body. The mind is *akasha* and *vayu*. If the mind is to be



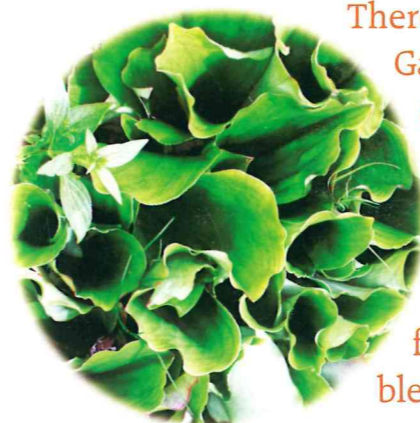
Late M Sivasubramaniam Pillai and his son M S Asan at their shop that sells Sidha medicines and raw materials for making the medicines



SARIVA

(*Decalepis hamiltonii*):

Its tubers are used in the treatment of indigestion, dysentery, cough, bronchitis, leucorrhoea, chronic rheumatism. Also used as a cooling agent and blood purifier



CHANDRAMULIKA
(*Kaempferia galanga*):
Its rhizome is used to treat
gastric troubles, mumps,
tumours, swelling, and wounds

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influenced, this can be effected by regulating breathing (*vayu*) through yoga, or by using sound in the form of music or mantras, and thoughts.

The human being is just a miniature version, a microcosm, of the universe or the macrocosm. Just as *akasha* (space), *vayu* (wind), *agni* (fire), *ap* (water), and *prithvi* (earth) comprise the five elements of the universe, so we too comprise these five elements. When any of these elements is present in the environment, they will in turn influence us. The foods we eat and the weather are just two examples of the presence of these elements.

The human being and the universe are not apart and separate from each other, as Western science would have us believe. The world-view of Ayurveda is based on the Sankhya school of thought which assumes that the manifest or objective world emerges from the non-manifest or subjective world, and that there is an essential unity and continuum between the two. The only way to understand nature is to become one with it. One who has control of both the outer and inner worlds is Brahma who is believed to be the originator of Ayurveda.

Even with a slight understanding of the indigenous systems of medicine, you begin to

glimpse that medicine was not merely a science but a philosophy, and its greatest practitioners were in fact saints. The Siddhars, as the practitioners of Sidha medicine were called, were devotees of Shiva and were even called Sivachariars. They were wise men who meditated, wrote religious poetry alongside medical treatises, and were blessed with healing powers.

Why then has there been a disconnect in the twentieth century between our traditional wisdom and the way we live? Why have the traditional systems of medicine taken such a battering that we have no faith in our own system of medicine but must take recourse to reductionist Western medicine which takes a piecemeal view of the body? Western medicine has

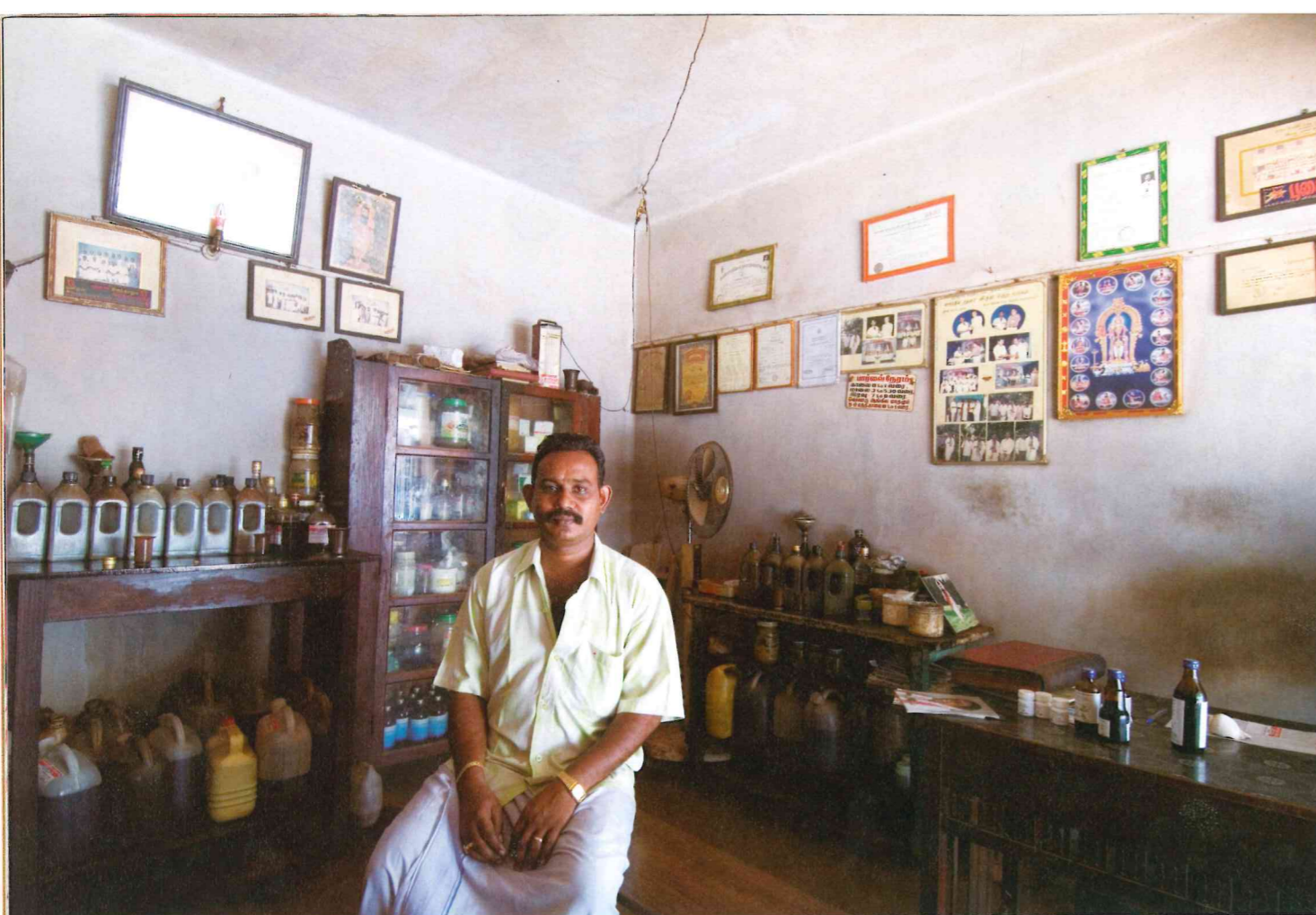
held such a sway over the past few hundred years that we scoff at the traditional systems and have dismissed them as grandmothers' tales, not realizing that grandmothers were in fact smart women who could treat simple ailments cost-effectively: a little bit of *tulsi* here, a bit of neem and turmeric there.

"It's only 100 years since aspirin was introduced in the world, and the event is being celebrated the world over. Our medicines are 5,000 years old, and they say our system of medicine is not scientific," says Vaidya Ramesh Nanal, a Mumbai based Ayurvedic physician, with cynicism. He takes out a small twelve-inch ruler from his desk, looks at it, sighs, and says, "It's like asking us to measure the Qutub Minar with this small scale."



Left: L Narayan Reddy, the bone setter from Nallakamanahalli, Karnataka

Vaidya Subbaiah Nambiar, a fifth generation healer of poisons in Thenkasi, Tirunelveli district



Augustine Vaidyar in Palliyar, near Trivandrum: The health of a new-born depends on the mental and physical health of the parents

However, Darshan Shankar of the Foundation of Revitalization of Local Health Traditions (FRLHT) in Bangalore is less cynical than Ramesh Nanal, his guru. While he too believes that the parameters by which Western medicine is studied cannot be applied to Indian medicine, he feels sad about the wealth of medical information that has already been lost because of the erosion of confidence among the traditional practitioners of indigenous medicine. The traditional stream of medicine encapsulates not only knowledge about cures but about health promotion and the prevention of disease. Its repertoire includes traditional home remedies such as administering *moringa* leaves with pepper seeds, or *jeera* with dal during lactation, or distributing sesame seed and jaggery laddus during *vasanta habba* in Karnataka which, besides being auspicious, helps prevent colds.

One study showed that around 60-120 health conditions were traditionally dealt with at the domestic level. Folk medicine has knowledge of the medicinal uses of over 8,000 species of plants as

well as hundreds of animal species, minerals, and metals. It is estimated that around 4,000 herbal and natural product formulations are known to and used in traditional medicine.

Besides the folk tradition, which is mostly oral, the codified systems such as Ayurveda, Sidha, and Unani have thousands of medical manuscripts lying in private collections and libraries (especially in Tamil Nadu), and contain a wealth of medical information, from the curative properties of plants to information about where they are available and how to make medicines from them. Unfortunately, there is no comprehensive record of these medical manuscripts, but they speak of advanced diagnostic tools, therapeutic techniques, surgery, specialized lines of treatment, as well as an understanding of the mind-body relationship.

"Apart from these systems of medicine, there are thousands of traditional healers in India who can treat a host of problems from asthma to jaundice, malaria, bone-fractures, poisons, and paediatric illnesses. However, as even

members of their own community prefer going to the government hospitals these days, their own children are unwilling to be healers, which the older generation considered to be their sacred duty," Darshan says with regret. There is neither social motivation nor is there motivation from the government which spends a mere three per cent of the national health budget on Indian systems of medicine.

There is not only erosion in the confidence of traditional healers but a waning in traditional practices, because Western marketing of allopathic medicines has led to disastrous results. Not long ago, mothers everywhere, especially in the rural areas, were led to believe that powdered milk was superior to breast milk, that neatly packaged Electral was better in controlling diarrhoea than the traditional soup of boiled rice and lentils, and that bottled soft drink was a better offering to guests than traditional butter milk or tender coconut water. More important, the belief that water stored in copper vessels kills bacteria was discredited. Studies by Padma Venkat and her team at



Pitcher plant, native to north-east India

the FRLHT laboratory have shown that water stored in copper vessels destroys micro-organisms such as *E.coli*, fungi, and algae present in it!

We are at FRLHT, which Darshan has helped set up, situated on a four-acre campus in Yelahanka on the outskirts of Bangalore. The institute was set up in 1993 with initial funding from the Tata trusts with the purpose not only of study and research into traditional systems of medicine but also their "revitalization" in a contemporary context. The critical areas of revitalization include conservation of the natural resources used by Indian medical heritage, building inter-cultural bridges between traditional knowledge and modern science, and the revitalization of transmission processes – informal, institutional, and commercial – for the dissemination of traditional knowledge. Here 70 people, among whom are scientists, traditional healers, and *vaidyas*, are working towards focussing world attention on Indian traditional medicine.

The man behind it all is of course the bearded and understated Darshan who is the repository of so much knowledge that until the end of three days when I actually asked him what the subject of his PhD was and he confessed that he had only an



Every house in Kanyakumari district displays a tuft of the aloe vera plant that is believed to ward off insects and evil spirits

undergraduate degree in statistics, I did not realize he was not Dr Darshan Shankar as I had assumed. "People continue to address me as doctor, and I have stopped trying to correct them now," he says with a faint smile. He has reason to smile because he was one of those who did not believe in formal education, stopping to question, after a degree in statistics, what that really had to do with life.

"Even the index by which we measure poverty seemed so simplistic. The tribals and others living away from the urban centers may not have wealth in the sense in which we understand it, but they are rich in their music, dance, arts, and their willingness to share; rich in spirit. It made me wonder which this economic index was by which we measured lives."

Wanting to set up a system that would make the students more socially aware, Darshan persuaded the then vice-chancellor of Bombay University, and the Government of India to establish a two-year, postgraduate scholarship based University Experiential Learning Programme in 1973 which continued till 1980 when it was scuttled by conservative groups.

"Why should a student's dreams depend on marks? Why do graduates lack confidence in

applying knowledge to real life situations?" Darshan asks gently. If a student, whether from science or arts or medicine, works with the community under a university guide, receives a certificate for his final dissertation, s/he imbibes social concern, he believes.

When Darshan gave up the programme, he settled down among the tribals in Karjat in rural Maharashtra from 1980 to 1992. It was in Karjat, while working with the tribals, that he had his first awakening, as it were. "I realized that the people here knew of at least 400 different healing plants. They could treat not only ailing humans but also animals. They knew how to treat snake bite, cuts, dysentery, diarrhoea, jaundice, even the prolapsed uterus of cows," he says. They used the neck of a dead turtle to push the uterus into position. Their argument was that when the turtle pulls its neck inwards it is difficult to pull it out. Lactating mothers used *Ipamoea maurtania* (*vidari kand*) to enhance breast milk, and the leaf of a common plant, *arka patra*, to reduce swelling of the testicle.

He was astonished by the knowledge of the tribals, but when he approached pharmacologists to scientifically validate what he saw they were unable to do so. Modern



Tirupathi Asan: Sidha is not all about hocus pocus cures

medicine, they argued, was based not on the properties of the plant but on the compounds. To study each plant in detail would be expensive and would involve years of research.

It was then that he met Ramesh Nanal and his family who have been a guiding force in all the work Darshan has done since. "When a Nanal speaks he seldom voices his opinion. Instead he quotes from the classical texts of medicine like *Charaka Samhita* with reference to each plant, its parts, their effect on body tissues, and the disease. They even know the systemic effect, which modern

medicine does not know about any drug. They know if it is toxic and how it will impact the immune system," Darshan recalls.

Proud, yet ashamed that so much traditional knowledge would soon be forgotten if someone did not step forward to give the system credence, Darshan decided to shoulder the task of studying the inherent knowledge in traditional systems of medicine, and preserve the medicinal plants that were integral to it. "I envisaged this institute to be the IIT of traditional medicine, which it will one day be," he confidently avers.

Darshan found a strong ally in

Sam Pitroda (the chairman of the governing council), and with funds raised together, they set up FRLHT which, among other things, has not only studied and documented health practices in homes, given awards to outstanding tribal healers, but has mapped out and documented areas of conservation, recording information about where particular plants grow, at what latitude, longitude, and altitude, and in what weather conditions. "This also helps us track whether any species is endangered" says Darshan. FRLHT has been able to build a comprehensive, computerized database of approximately 7,500 species of Indian medicinal plants (though there are 8,000 medicinal plants of some of which there is no record).

The government of India has appointed FRLHT as the national custodian of its first internationally accredited herbarium, set up in 1995, which has dried species of plants and herbs from all over India. The herbarium serves as proof of the existence of plant species in the country. Darshan confides that he hopes to expand the project in future to add samples of fauna, metals, and minerals used in traditional health practices around India, of which again there is an infinite number.

One of FRLHT's major projects has been to conserve the entire populations of medicinal and herbal plants in Indian forests with the assistance of state governments. This strategy envisages demarcating portions of forests as conservation areas. "This is an effective and low-cost method of conserving medicinal plants in their natural habitat," says Darshan, "in comparison with the expensive freeze-dried methods used by many developed nations."

What is more, this will help preserve the wild varieties of medicinal plants which are necessary for genetic diversity. There were hundreds of varieties of rice grown in the wild until recently. Now, because rice is no longer cultivated in the wild, the gene pool comprises no more than

a hundred varieties of rice. (Similarly, tigers need to be preserved in the wild for a healthy gene pool, not in zoos where inbreeding occurs.)

FRLHT has had some success in promoting the concept of herbal gardens, especially in rural areas, so that with a basic kit of 21 or so medicinal plants, women are able to treat simple health problems. This programme has taken off in a big way in certain districts of Tamil Nadu and Karnataka where women are able to offer first aid before the patient is taken to the hospital.



T Annamal of Papanasam who gives a herbal juice to those suffering from jaundice

Another advanced form of knowledge that Indians had was Varmam medicine, which is a branch of Sidha medicine that is to this day widely prevalent in parts of Kanyakumari district. The points where life force (or *prana*) resides and flows in the human body are called *varmam* points. There are 107 such points in various parts of the body, such as the nerves, nerve joints, bones, muscles, ligaments, and inner organs. Correct or faulty vibration of the *varmams* either promotes or impairs health



KALI MUSLI (*Curculigo orchiooides*): Its root is used as an aphrodisiac. Also to treat diabetes, leucoderma, and piles

"Health expenditure is the second most common cause of rural debt. We have seen that primary health care centers run by governments are unable to deliver even basic health. Why not encourage the folk healers, of whom there are at least a million in India, to care for the primary health needs of the people?" asks Darshan passionately. We already have, he says, the concept of barefoot doctors in the thousands, of traditional birth attendants, bone-setters, and healers treating poisons and dental problems, which worked well until recently when even the government gave more credence to the Western systems of medicine.

Much before Edward Jenner

produced a vaccine for smallpox, there was a system of smallpox inoculation in parts of northern and southern India as early as the seventeenth century. While one can find various references to this practice, the one by J Howell is the most detailed. He describes the practice he observed in Bengal in 1767 when a particular group of Brahmins would move around small towns before the onset of summer when it was believed smallpox would strike, and inoculate men and women who had observed a regimen of abstinence from fish, milk, and ghee for the preceding month.

Howell describes the inoculation itself thus: "The inoculator takes a piece of cloth in his hand and rubs the part to be inoculated for eight to 10 minutes. He then makes a prick with a small instrument till the blood appears. After that he opens a linen double cloth and takes from there a small

piece of cotton charged with various matter which he moistens with a few drops of Ganges water and applies to the wound with a bandage..." Virtually no one in India suffered from smallpox until this practice was banned in 1804 by the superintendent after the discovery of Jenner's smallpox inoculation. The frequent outbreak of small pox in India during the nineteenth century could be attributed to the fact that while the traditional system had broken down, the government, given economic and political strain, was unable to meet the need for universal inoculation.

It is also arrogance to imagine that the contribution of Western medicine is in its sophisticated surgical techniques. India had several local surgical techniques. There is evidence in medical literature as well as in the *Dharmashastras* to indicate that Caesarian section was practised in

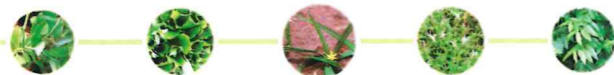
BENEFITS OF STORING DRINKING WATER IN COPPER POTS

WHO estimates that four million children under the age of five die each year from diarrhoea, largely in developing countries. Unsafe drinking water is thought to be the major cause. With increased resistance of micro-organisms to antibiotics and synthetic organic disinfectants, a novel, cost-effective purification system is an essential need.

Ancient ayurvedic texts recommend the use of metals like gold, silver, and copper for purification of water. In India, it is a common practice to store drinking water in copper pots. The principal aim of the current study was to evaluate the benefit and safety of drinking water stored in such pots. The study was designed to demonstrate the antibacterial and leaching effect of copper. *Escherichia coli* (*E.coli*), *Salmonella typhi* (*S.typhi*), *Staphylococcus aureus* (*S.aureus*), *Bacillus subtilis* (*B.subtilis*) were introduced in the water in order to evaluate the antibacterial effect. The amount of copper that was leached into the water was determined by using a kit "Spectroquant ® 1.14414." (Merck) and the absorbance was measured at 595 nm

using a UV-Vis spectrophotometer (Systronics 117). Preliminary tests were also conducted to study the mode of action of copper to bring about the anti-microbial effect. Boiling of water stored in copper pots and the use of chelating agents were adopted to identify the nature of the anti-microbial entity that leaches into water. Our study indicated that *E.coli* gets completely killed within 8-12 hours of introduction into the water stored in copper pots. The copper vessel did not exhibit any anti-bacterial property against the other organisms tested. The levels of copper (<1035 ppb) that had leached into the water were within the permissible limits of the World Health Organization (WHO). Tests also indicated that the continuous presence of the pot was not necessary to cause *E.coli* to die, as water withdrawn and tested after storage for 24 hours in copper pots, was able to kill the organisms.

(V B Preethi Sudha and P Venkatasubramanian, FRLHT)



The varmam massage for a bad back: Vaidya Murugan of Myladi

India from ancient times. It is now confirmed that there used to be surgical treatment of cataracts which was reported by the Royal Society in England as early as 1792. It was perhaps in the field of plastic surgery that India was far ahead of others, and it may even be said to have influenced the technique the world over.

The first detailed description of surgical replacement of the nose is found in the *Susruta Samhita*. The two early methods

used in India – the cheek flap method and the media forehead flap method – are still used by surgeons. The use of the forehead flap method has been in vogue in Maharashtra at least since the fifteenth century. There are also families in Kangra who are skilled in this art, and the last surviving member of these families performed this operation during the twentieth century.

We had heard so much from Darshan and his team about the

advanced systems of India's medical knowledge that we wanted to see if the people that Darshan spoke of actually existed. Indeed, when we undertook a journey to some remote corners of India, wherever we went, be it Kanyakumari and Tirunelveli districts in Tamil Nadu or Tumkur district in Karnataka, or in parts of Kerala, we saw healers who could set bone fractures, and others who could cure poisonous bites and skin problems, and yet others who knew of a medicinal paste to cure jaundice.

Some healers like Mantrada Tirumallaih of Urdigere who treated snake and scorpion bites, and skin disorders, or Lakshmi Narayan Reddy of Nallakamanahalli on the border of Karnataka and Andhra states, were people who treated only a single kind of disorder. What they knew about setting bones or treating poisons was learnt from an ancestor. They never sought money for what they did considering it their sacred duty to heal from knowledge that was a family tradition. However, as there are no free lunches among the poor, the patients paid them whatever they could in kind, be it



M Tirumallaih, the poison healer from Urdigere near Bangalore



KIRAYAT

(*Andrographis paniculata*): A highly traded medicinal plant. Its root as well as the whole plant are used to treat dysentery, fever, diabetes, and itches

Darshan found a strong ally in Sam Pitroda (the chairman of the governing council), and with funds raised together, they set up FRLHT which, among other things, has not only studied and documented health practices in homes, given awards to outstanding tribal healers, but has mapped out and documented areas of conservation, recording information about where particular plants grow, at what latitude, longitude, and altitude, and in what weather conditions

a hen or a bag of grain.

The interesting thing was that both Reddy and Tirumallaih literally treated patients at bus-shelters and public places. Buses with loads of patients stopped by at Nallakamanahalli just to be treated by Reddy. His method of treatment comprised massaging the fractured or dislocated hip with a medicated oil, bandaging the arm or foot with bamboo or wooden splints. Some of the more serious cases had to stay back for a

week in the shelter donated by the Lions Club as the massaging and bandaging was done by him every day, for quick recovery. Even leading orthopaedicians these days prefer such wooden splints with bandages to the plaster of Paris cast that is beginning to be considered outdated.

Another advanced form of knowledge that Indians had was Varmam medicine, which is a branch of Sidha medicine that is to this day widely prevalent in parts of Kanyakumari district. The points where life force (or *prana*) resides and flows in the human body are called *varmam* points. There are 107 such points in various parts of the body, such as the nerves, nerve

joints, bones, muscles, ligaments, and inner organs. Correct or faulty vibration of the *varmams* either promotes or impairs health. *Varmams* are rhythmically tuned by *varmam* experts to cure a variety of ailments such as nerve disorders, arthritis, and spinal pain, among others. The Varmam doctors, or *asans* as they are called, treat patients not only with herbal decoctions and pastes, but by pressing one of the vital points to release the pain at another point.

"We know where the pain will be in two hours, where it will be tomorrow," says Dr Rajendran of Moolachin town on the outskirts of Trivandrum. He is a master of Kalaripayattu as well as Varmam,



Maruththuval Malai: Hanuman is believed to have dropped off a stem of the plant Sanjivani in this part of Kanyakumari. The mountain is home to many medicinal plants even today



VAYU VIDANGA
(*Embelia ribes*):

Its fruit, seed and root are used to treat constipation, indigestion, flatulence, piles, leprosy, skin disease, and headaches

or Marmam, as it is called in Malayalam. These *varmam* points can be tuned for health or attacked to kill a person, and is in fact the basis for Kalari. They act on the nervous system, and *asans* such as Vaidya Murugan of Myladi or Asan Tirupathi can, by pressing a certain point in the body, cause a man or woman to become unconscious. "This can be misused by the novice, so we are careful to impart such knowledge only to the right kind of person," says Asan Tirupathi sagely. *Varmam* is now however taught in government medical colleges in Tamil Nadu, and is considered a sacred art that was imparted by Shiva to his consort Parvati who then revealed

"We know where the pain will be in two hours, where it will be tomorrow," says Dr Rajendran of Moolachin town on the outskirts of Trivandrum. He is a master of Kalaripayattu as well as *Varmam*, or *Marmam*, as it is called in Malayalam. These *varmam* points can be tuned for health or attacked to kill a person, and is in fact the basis for Kalari. They act on the nervous system, and *asans* such as Vaidya Murugan of Myladi or Asan Tirupathi can, by pressing a certain point in the body, cause a man or woman to become unconscious

it to the Aswins. Saint Agastyar then received the knowledge, and it is said that he is the patron saint of the Sidha and *Varmam* systems of medicine that are flourishing in this extreme corner of India.

"*Varmam* doctors basically work on the nervous system. This needs to be studied further," muses Darshan, who had told us about these doctors before we set out in quest of them in Kanyakumari district. It might be simple enough to cause someone to become unconscious by pressing *varmam* points, but to awaken him takes days as the person's nervous system is adversely affected. Asan Tirupathi tells of how a student caused another to become unconscious; one of the senior gurus had to be summoned to revive him (again achieved by activating a *varmam* point).

Wherever we went we discovered that the traditional healers thought it their sacred

duty to heal people. Earlier they would mostly invoke Hindu gods, but with the spread of Christianity some like Annamal of Papanasam in Tamil Nadu, a healer of jaundice, performs her art in the name of the Lord. On the other hand, Subbaiah Nambiar in nearby Thenkasi chants mantras while treating poisons, waving *neem* leaves around the patient, and we may have dismissed all this as hocus pocus until Ganapathiji, a Sidha doctor at the Vivekananda center and our guide around these districts, whispers to us that the herbal medication Nambiar gives for skin disorders and poisons is cited in the Sidha texts and does

have a medical basis!

Between *Asans* Tirupathi and Ganapathi we have a glimpse of the metals and minerals used in Sidha medicine, with Asan Tirupathi, much to our shock, even producing small vials of arsenic and mercury which he says he uses for treating certain ailments. He shows another vial, a mixture of iron oxide, sulphur, and magnetized metal, which he says he has boiled for 1800 hours before taking out a fine powder with the brush made from a squirrel's tail. This mixture is incidentally good for curing terminal cases of anaemia. Has he ever taken it himself, we want to know, and he nods his head in affirmation.

"In Sidha medicine the use of minerals and metals is very advanced. When we purify it a hundred times over, and give it in the right potency depending on the body weight, it will cause no



An ancient Sidha manuscript from a private collection in Kanyakumari

harm," explains Ganapathiji. What is more, the shelf life of some of the mineral and metal medicines is at least three generations. Ganapathiji still uses a preparation made by his father for treating patients!

"Next time you come, we will show you how to apply the leaf of *Damia extensa* which will enable you to hold fire in your hand, or apply a paste of *Borreria hispida* by which you can safely chew pieces of glass or stones," says Ganapathiji with pride in his medicine.

That however would entail another journey, and would be another story. In the meanwhile, we have realized that Indian medicine, which might sound like a collection of old wives tales, is deeply rooted in the ancient medical texts which contain layers of knowledge that may well be lost to us, for it is all in Sanskrit. "Every time I open the *Charaka Samhita*, I find a line whose meaning I had not comprehended earlier," says Vaidya Ramesh.

More important, will Western science and Indian medicine ever find a meeting ground? Not really, says Vaidya Ramesh firmly. Where efforts have been made to combine

the two, it has neither resulted in strengthening traditional medicine nor has it provided Western medicine with balanced solutions.

Take the case of the plant *sarpagandhi* (*Rauvlfia serpentina*), he says. The roots of this plant are used in traditional medicine in a mixture of several compounds for certain conditions such as mental disorders. The discovery of the traditional drug was based on indigenous pharmacological science. About 100 years ago modern pharmacological investigations were begun on this plant, resulting in the isolation of an alkaloid named reserpine whose discovery was trumpeted. However, scientists found that this so-called pure drug had a number of side-effects which are not experienced when the patients used the whole aqueous extract of *Rauvlfia serpentina* root powder. Besides, production of the drug made such demands on the wild plant that to this day it is on the endangered list.

Even Darshan who wants to take the indigenous systems to the world says the concept of *vatha*, *pitha*, and *dosha* in treating a human body cannot be explained in Western scientific terms. In any

case, why should Western science be the only standard for progress and civilization? Let us ask Western medicine, as Darshan says, to treat a person according to the concept of *panchamahabhootas*!

"Where is the standardization, even in Western medicine? America does not accept WHO standards, Russia does not accept American standards, and the blood report I get from one hospital is not accepted by another hospital in Mumbai itself; and then they talk of the lack of standardization in Ayurveda!" says Vaidya Ramesh, with of course no trace of anger in his voice.

"Let us not be dogmatic about one system. Western medicine is needed for short-term intervention, but let's rely on traditional systems for preventive health care. In the end, no one system holds the answer to all medical problems. The future is in medical pluralism. In the West, there is already a realization that a major cause of hospitalization is the side effects of drugs. They are now moving towards complementary systems which are not even covered by insurance," concludes Darshan.