

South Asia

Travels and Adventures through the Amazing World of Medicinal Plants

India

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India is a vast land, filled with extremes, a land of great ignorance, of sickness, crushing poverty and immense suffering, yet also a land of great spiritual enlightenment, of health, astounding wealth and bliss. India is a churning cauldron of contrasting opposites; just being in the midst of its startling dualities, you are never the same again. I had traveled to India a few times on my own spiritual quests. Then again, enroute to China, I stopped off in India again. I was in the land that gave birth to the Buddha, to do Vipassana meditation courses, a little Yoga and to travel. As the journey moved through me, I realized that the wisdom of these disciplines was embedded in Indian Ayurvedic medicine. Conventional medicine is just now beginning to validate and discover the wisdom of mind-body medicine, the holistic approach, herbal medicine, prevention and wellness. Yet 4,000 years ago, these were the cornerstones of the foundation of Ayurvedic medicine.

India is a mystical land of saints, magicians, and snake charmers; it's an exotic and beautiful land, ranging from the bathing ghats of Varanasi to the sunny beaches of Goa, to the snowcapped Himalayas, to the beauty of Nilgiris. From the sandy deserts shimmering in the setting sun of Rajasthan, to the rainy northeast. Like the spectrum of colors of the rainbow, India has many colors and many faces. India is a vast expanse of geographic, cultural, racial, and religious diversity. 3,000 km from east to west at its widest point, & 3,000 km from the Himalayas in the North and Kanya Kumari at her Southern tip. The Subcontinent is separated from the rest of Asia by the Massive Himalayan range; it occupies an area only 33% compared to the landmass of continental United States, yet it has 75% more people! It is the second most populous nation in the world and the largest democracy. A staggering 400 million of its 1.3 billion inhabitants,

are estimated below the poverty line. This enigmatic nation is as luxurious as it is squalid, the plains are flat but richly fertile, the Himalayas are massive and spectacular as they are arid, the food is as bad as it can be magnificent, the transport as exhilarating as it can be frustrating. Nothing is ever quite the way you expect it to be.

My friend and I flew directly into Mumbai. India is a massive assault on the senses like no country I have ever been to in the world. You are immediately struck by a cacophony of sights, sounds, smells, tastes and emotions. Mumbai is a teeming sprawl, bursting at the seams, 23 million people and growing. It has one of the highest population densities in the world. The hustle and bustle of the streets is intense: congested traffic, blaring horns, beggars, rich red-ochre color of skin, of the marks on foreheads, of the earth itself, and iridescent colors of saris. The devil-may-care drivers of three wheeled motorized rickshaws dodge cows meandering through traffic; blaring



Indian music hangs over everything. Merchants shouting, coolies carrying boxes on their heads. Smells of food, of sweat, of spices, of excrement, of incense. Passing bazaars, temples, mosques, and sidewalk vendors selling chai, cutting hair, cleaning ears! Here, set against a backdrop of crushing poverty and suffering of enormous proportions, the fancy hotels, shops, clothes and even Rolls Royce cars -- displays of wealth unremarkable in developed nations -- are rendered obscene in juxtaposition. The 7-year-old girl dressed in rags begging for food or money, the countless families living in shanties or simply throwing down a sheet of plastic on the sidewalk. The babies toddling barefoot around trash-and-filth-strewn street dressed only in a torn shirt... the young women carrying emaciated babies, who follow you along a shopping street pulling at your elbow (and heart) for a handout, kids faces smeared with filth, from rummaging through a trash dumpster for scraps of a meal... These are heart-wrenching scenes that wear-away at your humanity, day-after-day. You find yourself cycling through different phases of philanthropy, while being perpetually hounded and hustled as a rich foreigner (all foreigners are considered rich), first you try giving nothing, and hide behind fatalism, then equally inappropriate, you give everything, or then only give when you feel a calling. My friend, seeing his young

daughter in all girl beggars, gave generously, and was enraged when he saw the thugs who control these beggars, and their turf, collect the money from them at the of the day. After seeing this, he would only buy food to give to them, and was pleased to see them eating their reward. Amazingly, just before we arrived, were there was a 'beggars strike' (only in India!) they complained their handlers were taking too much and went on strike!!!

The earliest traces of civilization in the Indian subcontinent are to be found in places along the Indus River in the North, a highly complex civilization that first developed some 4,500-5,000 years ago. Aryan tribes from the northwest invaded about 1500 B.C.; and with their merger with the earlier inhabitants, created classical Indian culture. At its height, around 2500 BC, the first Indian civilization comprised of 1400 cities and towns spanned an area from Afghanistan to Goa (South-West India). It was the largest trading and oldest seafaring civilization in history. Later, Arab incursions started in the 8th century, and then the Turks in 12th were followed by Europeans, beginning in the late 15th century. By the 19th century, Britain had assumed political control of India. Challenged by a unique form of Indian nonviolent revolution led by Mahatma Gandhi, amazingly British colonialism ended and led to independence in 1947.

So many cultures have been rolled by its history into one. Of course, there is the pervasive British influence everywhere, yet not so well known is the Portuguese influence in Goa, on the Southwest Indian coast. It combines old Portuguese architecture with a Portuguese flavor to the lifestyle, which somehow manages to exist even 25 years after India took over Goa. In fact I remember attending a Portuguese Catholic Mass, one Christmas Eve, so incongruous is this enclave that since the 1500's the Indians were only able to dislodge the Portuguese in 1961. The French had their enclave in the South at Pondichery, given by the Sultan of Gingee; the French took charge in 1674. Eventually, the French handed over Pondicherry to India in 1954. It was a Roman settlement thousands of years before that. Amazingly, we were walking the trash-strewn streets of Mumbai one day, and a pleasant beggar called to us from his spot slumped against a wall. I remember in astonishment as my friend struck up a conversation in English that suddenly slipped into Hebrew! Both the beggar and my friend had lived and studied Hebrew in Israel. It seems there is a strong Jewish

community Mumbai, and other areas around India. The Bene Israel claim to be descended from Jews who escaped persecution in Galilee in the 2nd century B.C.E. The first Jews in Cochin (southern India) were the so-called "Black Jews," who spoke the Malayalam tongue. The "White Jews" settled later, coming from western European nations such as Holland and Spain. Thousands of years of trade swirling around India has created this fascinating mix of cultures and religions. It becomes easy to see how Indian plants also involved in trade wound up in the Traditional Chinese Pharmacopoeia and many healing traditions around Europe and Asia.

We were heading north to the Vipassana Meditation center in Rajasthan and to get there is to pass through the most organized chaos in the world, the Indian train system.



There are as many as 961 local train services plying on the Western line carrying over 23 million commuters everyday while the 1070 services on the Central and the Harbor play hosts to a truly staggering 30 million commuters daily. The Indian Railways is the world's largest employer with over 1.7 million people on its

payroll. We were registered on a 10 day meditation intensive the very next day headed North from Bombay to Dammagiri in Rajasthan.

Meditation

“Other explorers of inner truth went still further in their search; and by experiencing the reality of mind and matter within themselves they recognized that diverting the attention is only running away from the problem. Escape is no solution: one must face the problem. Whenever negativity arises in the mind, just observe it, face it. As soon as one starts observing any mental defilement, it begins to lose strength. Slowly it withers away and is uprooted”

--Bill Hart ‘The Art of Living’.

This meditation called Vipassana, which means to see things as they really are, is one of India's most ancient techniques of meditation. It was rediscovered by Gotama Buddha

more than 2500 years ago and was taught by him as a universal remedy for universal ills. As practiced today, it is gloriously non-sectarian -- not a statue or picture of a Buddha or saint seen anywhere. It is, above all, about the technique. The technique aims for eradication of mental impurities and the resultant highest happiness of full liberation. Healing, not merely the curing of diseases but the essential healing of human suffering, is its purpose. Vipassana like other forms of meditation is a way of self-transformation through self-observation. It focuses on the deep interconnection between mind and body, which can be experienced directly by disciplined attention to the physical sensations that form the life of the body, and that continuously interconnect and condition the life of the mind. It is this observation-based, self-exploratory journey to the common root of mind and body that dissolves mental impurity, resulting in a balanced mind full of love and compassion. The scientific laws that operate one's thoughts, feelings, judgments, and sensations become clear. Through direct experience, the nature of how one grows or regresses, how one produces suffering or frees oneself from suffering is understood. Life becomes characterized by increased awareness, non-delusion, self-control, and peace. The course requires hard, serious work. Yet, as I told Andy (we both needed reassurance; it was his first course and I needed to settle myself as well), over a million people have gone through this program, which often feels self-imposed torture, and there are many benefits. Institutions, prisons, addiction centers, corporate management, and human researchers were all promoting the technique throughout India and the world.

There are three steps to the intensive training. The first step is, for the period of the course, to abstain from killing, stealing, sexual activity, speaking falsely, and intoxicants. This simple code of moral conduct serves to calm the mind, which otherwise would be too agitated to perform the task of self-observation. The next step is to develop some mastery over the mind by learning to fix one's attention on the natural reality of the ever-changing flow of breath as it enters and leaves the nostrils. No easy task for our hyperactive minds. By the fourth day the mind is calmer and more focused, better able to undertake the practice of Vipassana itself: observing sensations throughout the body, understanding their nature, and developing equanimity by learning not to react to them.

Finally, on the last full day, participants learn the meditation of loving kindness or goodwill towards all, in which the purity developed during the course is shared with all beings. This is the greatest experience of pure peace that I have ever experienced. Overall the course is tough; you basically 'sit on your behind' all day for long hours, but your attempted equilibrium between 'not avoiding the unpleasant' and 'not craving the pleasant' starts to become a habit pattern of the mind that plants you firmly in the present moment. Your mind becomes stronger with each passing day. It was Andy's first course, and there were times that his agitation became so extreme, I thought he would bolt, running and screaming for the front gates. Yet we both stuck it out, and when the 10th day arrived and we begin to talk again, it slowly descended on us both just exactly how profound an experience it was, and what an amazing difference to body and mind meditation really makes. The entire practice is a mental training. Just as we use physical exercises to improve our bodily health, Vipassana can be used to develop a healthy mind. Because it has been found to be genuinely helpful, great emphasis is put on preserving the technique in its original, authentic form. It is not taught commercially, but instead is offered freely. No person involved in its teaching receives any material remuneration.

Meditation involves "cleansing" your mind through self-observation, and eventually gaining control over your emotions like anger, greed, disgust, or any other negative emotion, and restoring your mental equilibrium by overcoming stress and its myriad symptoms. This "cleansing" of the mind eventually is bound to have a positive impact on our physical well-being as well, as it is inextricably intertwined with our emotional health.

A simple shower and Christmas Eve

When we returned to our in cheap hotel in Bombay. I was really looking forward to a simple shower. At the front desk of the hotel, they told me they had a room, yet the shower was not working. I took the room expecting it fixed at any moment. Days went on, I complained everyday. Final the manager looks at me with a straight face to answer my pained complaint and said "yes, yes it is true I said your room had a shower " then gave the universal Indian head nod side to side, his eyes making a figure-eight. It means

“yes an no and oh my god!” all rolled up into one, as far as I could tell, and he looked me in the eyes and said, “Yes its true I said your room had a shower in it.....BUT..... I never said it worked!!!” I did not know whether to laugh or stay annoyed; I left the hotel, smirking. Anyway, before I left I remember the first day in the hotel I was on the veranda, overlooking a bazaar, having a cup of tea, in a very mindful state, when drifting over the strange and exotic noises of the steaming hot market came Bing Crosby singing “I’m dreaming of a White Christmas.” I found my mind was able to observe a usually unconscious sequence of events, normally buried below my conscious mind. A subtle yet extremely pleasant bio-chemical and bio-electromagnetic sensation began to well up in my solar plexus. Suddenly I remembered, this day was actually ‘Christmas Eve,’ and sentimental memories came quickly into my mind. As suddenly as this song was hovering over the marketplace, it was gone. I felt a flood of craving come to my mind and body, immediately I wanted to hear more and more. Where could I buy Christmas music? How could I find who had played this song to get them to play it again? Then I realized, my mind clear because of having just finished the meditation course, how the inability to let go of pleasant experiences creates such suffering just as surely as avoiding an unpleasant experience. It was a small ‘ah ha! moment’, an example cleanly laid out before me. I could see how both unconscious responses had created so much suffering for myself over my (then) brief life. Since then, minor, and major insights followed year after year, from one course after another. I have thus come around to verifying and accepting the wisdom of the ancient Ayurvedic and Chinese physician–sages: we must intervene on the level of the mind before disease is manifest upon the body.

‘Chaiwalla’

After the first meditation course, we left the meditation center for a break before the next 10 -day retreat. We traveled to Shirdi, to the shrine of the original Sai Baba (the Sai Baba who currently has a large ashram in Bangalore is reported to be a reincarnation of the original Shirdi Sai Baba). I had felt drawn by a connection and stories from my former roommate in London. London had seemed like a life time ago at that time. My friend Carlo had been a student activist in Rome during 1968, and he had escaped arrest by going to India. He was very idealistic and eventually became a Hindu holy man, a *sadhu*.

He wandered the country with no possessions, dressed in just a loincloth with his hair matted in the traditional way. He begged for his food, the time-honored way. He told me of times of drought and of failing crops, sitting outside a village until the head man of the village would come to question him and his *sadhu* companions regarding religious points. He told me of the enormously generous villagers sharing their meager meals with him. He told me also of the wonders of Indian spirituality. He really lived the life and had felt a connection to the miracles attributed to the late Saint Shirdi 'Sai Baba' (1854-1918), of a man who had broken down age-old barriers between the Hindus and Moslems. We found ourselves so close to Shirdi, I had to go and pay respects. After a day at the shrines, my friend Andy and myself, were trying to leave but were lost due to our failure to penetrate classic Indian indifference in which they might tell you anything at all except what might be helpful or true. We were trapped in the 'misinformation zone' that sooner or later snares every tourist. We could not get the same information twice about which bus to take and what time to leave for our destination, we were stuck at this awful bus station. It was getting frustrating, my friend was getting sick and the bathrooms, I can quite safely say, were some of the worst I had ever been in. They were really quiet a puzzle: no running water, just a hole in the middle of the room, which you could not get to without getting quite messy from all the people who also could not get to the hole and had defecated in an ever-widening circle to the corners of the room. We sat for many cups of cardamom-flavored, unbearably sweet chai tea. We had missed bus after bus all day in an information blackout courtesy of the bus officials. We were served chai by an extremely nervous, Robinson Crusoe-like figure. This gentleman had long white hair and a long white beard. To say he was wearing rags would do rags an injustice. He was barefoot, wide eyed, with a great intelligence hidden behind his eyes. This 'Chaiwalla' had quite a story to tell his best customers of the day. He served us for a while, before we realized how great his English was. The more carefully I listened the more I could tell his English was nearly accent-less. What was such an educated man doing serving tea in the Shirdi bus station? He told us his story, which in the context of India is not so unusual. He had been married and had a large family. For many years he had a very successful and lucrative career as an accountant for one of India's top corporations. But then his voice started to get uncharacteristically

horse. Eventually it became difficult to speak. Finally, his voice just stopped. He visited many doctors, psychiatrists and experts in India and in other countries, receiving no help, only the diagnosis of Hysterical Aphonia. Finally, after a long disability, he lost his job, he lost his investments, and lost his savings, and finally his wife left him and took his daughters. He was destitute, depressed and in a spiritual crisis. He had heard about the power of Shirdi Sai Baba energy, and he took the few rupees he had left and bought his bus ticket to Shirdi. By now, Andy and I were dumbstruck from such a compelling story out of such a sincere man. He rushed off to serve someone else tea in this busy station. We waited anxiously for his to return, in silence. When he came back, he was hovering over the table. "Well, I arrived in Shirdi with nothing," he continued. "I visited the Shrine and prayed. Then I joined the parade, with the crowd singing hymns and swaying in unison. I found that after all the years of not being able to speak I could sing!!! Then I could talk!!! It took me many days of talking non-stop to whom ever would listen before I believed that finally with all the expensive doctors, after losing my family, after suffering for 10 years, I could now speak again! I was cured and it is a Sai Baba miracle." We were so curious and amazed he would want to stay here instead of reclaiming his old life and I asked, "But why do you stay here?" He was pensive and the serenely replied, "This was where I could be of service to Sai Baba's pilgrims." He beamed a bright smile, bursting through his scraggy beard, showing his blackened teeth. And that was it. He had stayed in the Shirdi Bus stations just to be of 'selfless service' to pilgrims like myself and Andy, rather than return to a spiritually bankrupt life. He had chosen poverty and service, and it seemed to me that this was his reward. He felt 'of service' like never, freed, pursuing his spiritual life, and he seemed very much at peace with it. He then told us times for all our buses and the connections to the trains and the train times for the trains so far down the road, into our schedule, that we did not believe him. He told Andy to drink an infusion of herbs that he mixed for him, and he drank turmeric, ginger and another ingredient. Andy's stomach-upset was gone almost immediately. Our mood was completely lifted, as we caught the 'right bus' out of Shirdi, and do you know what? All his information proved to be exactly correct right down the line.

Out of Cash and in the middle of nowhere

As we traveled our way back, through buses and trains, to the Meditation center for our second 10-day intensive in Dhammagiri, we realized we had no cash left to buy our final rail ticket with. It was also a public holiday, and we soon came to realize all the banks were shut. We decided we would get off in the small town, which was our train connection and try somehow, to get the travelers' checks cashed. Andy loves these kinds of challenges, loves the 'hunt'. He assured me he would 'save the day' and get us cash, even if there were no restaurants or banks open to cash the travelers checks. He would do all this in time to catch our connecting train. After being on the road with Andy for nearly a year, I realized he should go off and do his 'hunter and gatherer thing.' I would guard the luggage, which was considerable by this point; we were looking like a small caravan, as Andy was buying everything with an idea of starting a shop for his wife on his return to Boston. "Ok," I said, as I heard the novel, I had been reading calling to me. "O.K., you go off and save the day. I'll stay here and read." To be honest, it seemed like a hopeless task to me; everything was closed for a religious holiday, "but O.K you go for it" I told him anyway. Chapter passed chapter in my book, hours went- by and our train was looming on the horizon. Still no Andy. I was getting anxious. If we missed this train, we would miss the meditation course. I wonder what could have happened to my large, boisterous friend? Then suddenly off in the distance I heard a police siren, and around the corner drives a police jeep, siren wailing and a small yellow light flashing, and there is Andy in the front seat. My first thoughts were that he had gotten into some serious trouble. Then I saw his beaming face and I could tell from his body posture this was his triumphant return; we were going to make our train deadline after all and WITH MONEY. He came sauntering over to triumphantly explain, no one could cash travelers checks so he had talked the police chief of this town into offering a loan! We would repay the loan when we reached the meditation center. "How would we do that?" I asked tentatively "Well" Andy said with a gleam in his eye, "He is sending this 'plain clothes detective' with us." I looked over to a small untidy man dirty clothes and disheveled hair gleaming

with oil who was sat in the police jeep. I replied, "You mean he will travel with us for 4 hours and then another hour walk to the meditation center, get the money and return for another 5 hours? That's a 10-hour total journey!"

"Yep, that's the deal." By now Andy could barley contain himself, he had gotten us out of scrape with such style. The plain-clothes detective got out of the jeep, and pulled out with him a large, antique looking rifle left over from the 'British Raj'. As our new companion joined our caravan, it looked as though he was our armed guard. He was a small smiling man, with the rifle nearly as big as he was, he became our companion till our repayment!!

Heading South

After we completed our two 10- day meditation intensives, Andy was ready to 'hit the road.' It is so very intense to do your second course so close to your first course. We decided we would head south to Bangalore and then on to Kerala to

Thiruvananthapuram, formerly known as Trivandrum. Traveling through Kerala via the inter-connecting lagoons and rivers was fascinating. Some lagoons would be totally



covered in vegetation. We would be in small boats watching Indian life go by. Watching women washing their hair, their clothes, their dishes. These riverways were the center of their lives. Eventually we reached

Thiruvananthapuram, Even as early as 1000 B.C., this southern tip of India was

in frequent trade contact with foreign trading in cotton fabrics, spices, ivory and medicinal plants. We wanted to visit the present Sai Baba in Bangalore and Sivananda ashram in Bangalore and then on to the Sivananda Yoga Ashram at the Nayar dam in Thiruvananthapuram. To do this, we had to get there using the organized chaos of the Indian train system. And we had to use a strange kind of torture, the 'overnight sleeper,' but we were prepared by all our other experiences. As it happens, we had a wonderfully uneventful trip. Bangalore, 'the city of gardens', exemplifies the cleanliness of South

India in contrast to the North. It is the place where high-tech is remodeling India for the next century, and India will be a major force in high-tech. This means that there are now about 600 Internet cafes. We went straight to the Ashram, with some fellow travelers who were heading in the same direction. The present Sai Baba has been a guru of many controversies, so I was more than a little skeptical when we arrived just in time for Darshan, the religious audience with his devotees. As he moved through an adoring throng of devotees, I did see the powder of 'Vhibuti'—sacred ash manifested mysteriously from his hand to his devotees. He was wearing long sleeves, and the energy was very intense as he passed by. I was quite shocked; clearly he had great energy. The next day we then proceeded on with our trip, and decided on a brief 'stop-over' in 'Snooty Ooty'. Ooty (Ootacamund), in Tamil Nadu, is situated in the Nilgiri Hills, also known as the Blue Mountains. Snooty Ooty got its nickname from an earlier more elegant life of the British Raj occupation. The native Indians and other poor, had to make do with life on the broiling plains of India in the summer; only the well-off could afford to go to the Hill Stations to seek relief from the heat. The British Army would only allow officers and their ladies permission together with important and rich members of privileged classes. The mountains shimmer blue in the moist haze due to the hue of Eucalyptus trees growing on the mountainsides. It was amazing to see transposed into Southern India a little piece of England, the hills were dotted with English-style bungalows and, incredibly, there were still British remnant retirees left over, living out their pensions in India. Both Raj and Rajas enjoyed classic British pastimes: riding, golf, tennis, hunting with Red jackets, jodhpurs and riding boots and hounds. There was of course also, racing and polo and a full social season, complete with flower shows and dog shows. Snooty Ooty, from 1869 it became the summer headquarters of the Governor of Madras.

In my mind, however, it is remembered for the only cheap hotel I had ever been to that charged rooms by the blanket -- and expensive ones as it turned out! Of course, when you travel for extended period, you tend to get fixated on price. We checked-in and went to our room to get settled in for the night, quite pleased with the price, coming from the heat of the plains into this hill station it was impossible to imagine how cold it could get. At 11pm, I descended down to the front desk and paid for more blankets.....and, you

guessed it, yet again at 3am... and again at 5 am... and by the morning it had turned out to be much more expensive than anticipated (only in India!).

Our tussle with the bureaucratic Indian railway system began in earnest when we returned to pick-up our sleeper train. By all accounts we had committed the cardinal 'railway sin': we had an unplanned 'stop-over' and we were unable to pick up our journey with sleepers for another 14 days. That's how far in advance you had to book long journeys which required sleeping births. We were outraged; no one had mentioned this when we had gotten off. Anyway, my cunning friend had a private conversation with the ticket officer and some 'backshish' changed hands, and the railway officer was all smiles and "how could I have overlooked these two births right here on the next train?" With that, we were on our way again, or so we thought. Before the departure of any train, especially a long-distance express, any Indian station looks like a Kasbah in the Middle East. Our station was no different; prior to the departure it looked 10 times more crowded and just as chaotic. Passengers are running after coolies, who are trying to locate particular carriages; vendors are trotting up and down the platform trying to sell their wares, mineral water, fruits, newspapers and periodicals. Finally, just before the train arrives we are all lined up in front of the designated places for our particular carriage, I thought how odd, order has suddenly appeared from chaos, at least that was until the train pulled up in the wrong spot, then 'all hell broke loose'. Andy looked at me and said "don't worry I will find and save our seats, you wait here with the luggage." The 'shop stock' luggage was getting larger by the day. Andy disappeared into the melee, elbows flying, easily out-barging those around him. Andy was bigger -- head and shoulders above the Indians. About 10 minutes later, the platform had cleared except myself and the 'shop-luggage.' Andy reappeared with a 'shell shocked' look, his demeanor was completely deflated and he said "I've traveled everywhere, but I have never seen anything like what is going on in there, I can't make any sense of it, you try" Eventually, it turned out we only had one sleeping birth and no seat. Yet the carriage all rallied round, and helped us, by squeezing us into sharing seats. My friend had a bad back and complained about not being able to sleep on the floor. So I did. The sleeping births were stacked 3 high on each side, with me sleeping on in the middle of the floor.

The people were nice, yet the most unfortunate thing about this whole experience was a 'reflex action' most of them had, from having too much phlegm or mucus constantly in their throats, and the place to automatically displace this phlegm ison the floor. EXCEPT I was trying to sleep on the floor!! As the night wore on (and it did) I developed my own 'reflex action' one of quickly and almost unconsciously rolling to my side as soon as I heard anyone above me in the sleepers, clear their throats, as a big spit of phlegm would be descending from above. After much shouting and apologizing everyone remembered not to react to his or her 'reflex actions.'

Having chai is an experience not to be missed on a train. The Chaiwalla is an institution in himself, unlikely to be seen anywhere else in the world. Their strident cries of "Chai, garam chai"(tea, hot tea), wakes you even at 2 o'clock in the morning, as they parade up and down with undiminished spirit. The typical way of making it is to boil the living daylight out of a mixture of water, milk, sugar and tea leaves, and when no more tannin can possibly be extracted, strain it off into small cups or glasses.

Sivananda Yoga Ashram at the Neyyar dam in Thiruvananthapuram.

The Ashram is nestled into a picturesque setting, of 12 acres of tropical splendor in the quiet foothills of Kerala's Western Ghats. The natural beauty of the Neyyar Dam lake, the peaceful surroundings, the beautiful coconut palms and flower filled views offer an ideal atmosphere for the practice of Yoga and meditation. The Ashram's program of classical yoga techniques, taught in a warm and friendly environment, helps to instill a deep awareness of the spiritual essence of life. We arrived and stayed a while immersing ourselves in the harmony of the ashram routine, discovering the daily routines of gentle meditation, yoga asanas, and philosophical talks with the Italian swami who was heading the Ashram. The evenings would end with the harmony of peacefully singing Indian Hindi hymns, 'bajans,' together in a courtyard open to the stars.

Yoga

" Union, communion. The word 'yoga' is derived from the root 'yuj' meaning to join, to yoke, to concentrate one's attention on. It is the union of our will to the will of God/ Goddess, a poise of the soul, which enables one to look evenly at life in all its aspects.

***The chief aim of yoga is to teach the means by which the human soul may be completely united with the Supreme Spirit pervading the universe and thus secure
absolution."***

- B.K.S. Iyengar

The study of yoga is not about just physical health, through doing yoga asanas or positions it can be a spiritual path in its own right. Yoga was introduced to the West in the 50's and 60's and has recently become popular as a fitness regime offered in many health clubs. A 1990 study of patients who had coronary heart disease indicated that a regimen of aerobic exercise and stress reduction, including yoga, combined with a low-fat vegetarian diet, stabilized and in some cases reversed arterial blockage. It is said, "When 'asanas' are mastered, the yogi is not touched by the play of duality. His will and concentration are developed to such an extent that heat and cold, pleasure and pain, good and bad, and all other worldly influences do not touch him."

Psychoneuroimmunology

Psychoneuroimmunology is defined as 'an interdisciplinary science that studies the interrelationships between psychological, behavioral, neuroendocrine processes and immunology.' Conventional medicine, through this new field of 'psychoneuroimmunology,' is starting to explore how the mind can and does impact the body, and how it impacts a multitude of systems—the immune system, the endocrine system, the nervous system, and the cardiovascular system. We are now seeing how emotions are translated into chemical substances that impact our endocrine system, immune system, and other systems within the body. Emotions get communicated a number of ways to the physical level. For example, neuropeptides have been identified as the chemical messengers that allow our emotions to "talk" directly with the billions of defense cells in our immune system. They also influence cellular activity and the

mechanisms of cellular division. Laboratory scientists have been able to see that certain nerve fibers actually end on the surface of white blood cells. This gives us physical evidence that white blood cells receive direct messages from the nervous system messages which are part of the endocrine system and signal the regeneration process in our cells, and which are stimulated by the emotion of pleasure. Therefore, emotions play a central role in cellular division and regeneration. Sometimes the impact is positive, e.g. when the immune system is enhanced to combat diseases; other times the impact is negative, e.g. when cancer and heart disease (and the immune system) is significantly negatively impacted by the effects of stress or negative emotions. Current research is demonstrating that conventional medicine can no longer ignore the impact of the mind, the emotions or the spirit on the health. Just as the ancients were counseling us, thousands of years ago.

According to Ayurvedic philosophy, health is dependent upon one's ability to live in harmony with oneself and with the external universe. Traditionally, as much attention was given to illnesses of the mind as to illnesses of the body. The Ayurvedic physician taught that to avoid illness and pain, the patient must control the destructive (and self-destructive) nature. Living in harmony with the environment was recognized as essential to one's mental, physical, and spiritual well-being.

Ayurvedic physicians taught that prevention was more desirable than a cure. Their ideal was to develop an individual's natural resistance to disease to the point where one's immune system could function as one's best medicine. Their goal was to maintain an individual in his or her optimal health throughout life, so that the ultimate goal of life--the awareness of his or her connection with the life principle--could be pursued without hindrance.

Let medicinal plants grow sky wards.

Let two legged and four legged (living beings) prosper!

OM Peace! Peace!! Peace!!!

(in thought) (in word) (in deed)

--Taitriya Upanishad

From the developed civilization around the Indus river nearly 5,000 years ago came the 'Vedas'. These books are known as the four Vedas; *Rik, Sama, Yajur* and *Atharva*. The *Rik* Veda, a compilation of verse on the nature of existence, is the oldest surviving book of any Indo-European language (3000 B.C). They are the foundation of Hinduism one of the most complex, diverse, and tolerant of the world's religions; you can find within Hinduism almost any form of religion. (I remember on a previous visit how ironic it was, that I had stayed with some Christian Nuns, sent as young missionaries 60 years prior. They were saintly and enormously revered by the Indians, they were in their eighties, and after a lifetime of India the only practice they were left-with, was the singing of simple Hindi *bajans* hymns each morning. It seemed to me, India had converted them, not the reverse.) The philosophical teachings of the Vedas were challenged from the fifth century BCE by the Shakyas tribal group, Chief's son,.....Siddhartha Gautama this path developed on to become – Buddhism.

"The object of Ayurveda is the restoration to health of those who are afflicted with disease and the preservation of sound health of those who are well."

--Susruta, famous Ayurvedic physician 600 B.C.E.

Ayurvedic medicine, traces its roots from the Vedas of ancient India.

The *Atharva* Veda lists the eight divisions of Ayurveda: Internal Medicine, Surgery of Head and Neck, Ophthalmology and Otorinolaryngology, Surgery, Toxicology, Psychiatry, Pediatrics, and the



Science of Rejuvenation, and the Science of Fertility. The Vedic Sages took the passages from the Vedic Scriptures relating to Ayurveda and compiled separate books dealing only with Ayurveda. The Vedic *Brahmanas* were not only priests performing religious rites and ceremonies, but they also became *Vaidyas* (physicians of Ayurveda). These sage-physician of the time were the same deeply devoted holy people who saw health as an integral part of spiritual life. The Ayurveda system combined the use herbs, foods, yoga, mantras, lifestyle and surgery to support healing of body and mind. This medical system quickly grew into a respected and widely used system of healing in India. Students traveled from far and wide, all drawn to study Ayurveda. From China, Tibet, the Greeks, Romans, Egyptians, Persians, and more, they traveled to India and returned to cross-fertilize their own systems, with their new knowledge.

Like Traditional Chinese Medicine, Ayurveda has a deeply holistic perspective of the inter-relationship between physiological processes, external factors including climate, life, work and diet, along with the internal psychological and spiritual condition. The patient's ethics are also considered and are merely a means to the end of find peace and balance within us. Ayurvedic sage-physicians counseled that "right" action is action that brings us nearer to knowledge of God. "Wrong" action leads us away from that knowledge, towards dis-harmony. Ideas of "good" and "evil" are, therefore, only relative values and must not be used as an absolute standard by which we judge others. The sage-physician also emphasizes a regimen of diet with the use of appropriate drugs. Many other factors are taken into consideration. The age of the patient, the climate in which he lives, his cultural and social surroundings, and his bodily constitution, need to be considered before offering a prognosis. Touch, inspection, and interrogation are the main tools of diagnosis. Unlike the present conventional medical systems in most industrialized countries, which view health passively as a state absent of symptoms, Ayurveda believes that disease occurs not as an arbitrary affair but for definite reasons that, when correctly understood, could help to cure, and it emphasizes a technology of prevention of disease. Human beings should be in harmony with the universe; when there is an upset of the balance, disease occurs. Using natural medicine restores balance and equanimity. Treat the whole, and not just the affected part. There is great emphasis

on prevention in body-mind and spirit, engaging and educating for healing, rejuvenation, and a healthy lifestyle, as opposed to the 'disease model' of 'cure'. Holding the balance, achieving, and maintaining an optimum state, is based on herbs, yoga meditation and diet. Ayurveda is growing popular in the West for its commonsense focus on the science of longevity, the promotion of positive health, natural beauty and long life. Ayurveda, with its *tridosha* or three humours system, is able to provide an understanding of the cause of health in terms of a metabolic balance. Disease is simply understood as an imbalance between the nerve energy (*vata*), catabolic fire energy (*pitta*) and anabolic nutritive energy (*kapha*). All foods and experiences have an effect on the overall balance of these respective humors. Imbalance of the *tridoshas* leads not only to impaired health, but also to an impaired mental condition, because the mind's mental condition is dependent on the body's health. Ayurveda aims to keep the three humors in equilibrium, for only then can perfect health be attained and maintained. As everyone has his own particular forces; Ayurvedic treatments are specific to the patient, rather than disorder specific. The physician emphasizes a regimen of diet with the use of appropriate herbal formulas designed to fit the imbalance embedded within the constitution of the sufferer, as much as the removal of the disease pathogen. Ayurvedic treatment is carried out through the internal and external use of herbal medicine in a coordinated or integrated manner. Herbs are used to eliminate excesses and strengthen deficiencies. While they may possess a powerful nutritive impact on a weakened body, their primary action is to stimulate organic functions.

Ayurvedic Medicine today in India



In every Clinic or Ayurvedic Doctor's office throughout India you will find a statue of **Dhanvantari** Lord of Ayurvedic Healing. According to the Puranas this incarnation of Vishnu was a ruler of Benares who originated a universally effective system of traditional herbal medicine. He holds a golden leech (symbolic of blood purification) and a medicinal plant in his right hands, and the conch of wisdom and pot of rejuvenating nectar in his left. The tulsi-seed mala around his neck, plant-wreath halo, and his

sometimes blue-tinted skin emphasize his connection to Vishnu the Preserver.

There is a vast infrastructure of medical institutions, practitioners, dispensaries, hospitals and pharmacies. There are 154 Undergraduate Colleges with admission capacity of 6,300, thirty-three postgraduate colleges, and there are about 2,189 hospitals as well.

The Research activities for the past three decades, have resulted in the validation of herbal formulations such as *Ayush-64* for malaria. This formulation is a combination of ***Katuki, Saptaparna, Kiratatikta and Kuveraksa*** prepared from four different types of indigenously available herbs, which has been found to be very effective in the safe treatment of malaria effective for both cure and prevention. *Ayush-56* for epilepsy, *Ayush-82* for diabetes mellitus, *777 oil* for psoriasis, *Pippalyadi yoga* as an oral contraceptive and about 18 patents on processes developed in the Council's laboratories, which are poised for commercial exploitation. Through medico-botanical surveys, more than twenty thousand plant specimens have been collected. About 3,000 samples of plant, mineral and animal origins have been collected. Information on 3,800 plant-based folk medicines have also been collected and a monograph covering about 2,900 folk medicines has been compiled. The pharmacogenetic investigations on about 175 important Ayurvedic medicinal plant/drugs have been completed so far.

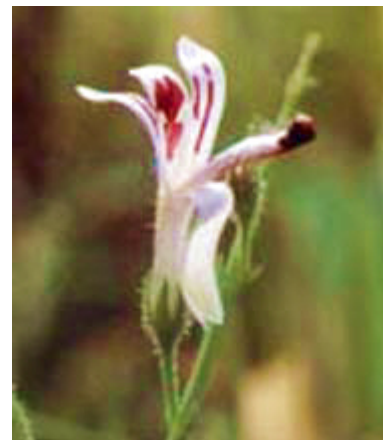


The Banyan Tree

One of the main keystone species of Indian culture and its eco system is the banyan tree of. It is the most wide- spreading tree. Its branches spread out and send trunk-like roots to the ground to support itself. Single Banyan trees may cover acres of ground. In fact, one tree in Bangalore covers 4 acres. The tree under which the Buddha sought Enlightenment is classified as *Ficus religiosa* or sacred fig-tree. Towards the West of the Maha Bodhi temple, Bohd Gaya in Northern India, is the tree where Gautam Buddha (563-477 B.B.) is said to have attained enlightenment. The heart-shaped leaf is revered and used as a charm. Research has demonstrated that the fruit contain serotonin. The nyagrodha (*Ficus bengalensis*) a.k.a. banyan, is one of the truly massive trees of north India. When mature, its branches are so stout that the largest birds can perch on them without their breaking, yet they are believed to be vulnerable to the tiny tailorbird, which can peck its life away. Its base forms caves and channels where it is possible to take shelter from the rain. It is a tree that not only grows up like most others, but also down as aerial roots that emerge from the branches descend to implant them in the soil. Therefore, one tree can form a grove all by itself. This type of fig tree can store up to 25,000 gallons of water within itself. It is believed that it can live for a thousand years. It creates a grove where thousands of pillar-like prop roots support massive limbs. Banyans are said to grow so large that Alexander the Great could camp 7,000 men under one tree. Ayurvedic medicine recommends the use of a concoction made with its astringent milky sap to arrest miscarriages. Therefore, the tree is associated with healing, protection, sensitivity, reliability and generosity.

Andrographis, *Andrographis paniculata*,

Commonly known as "King of Bitters," it is a member of the plant family *Acanthaceae*, and has been used for centuries in Asia. The leaves and stems are used to extract the active ingredients. It grows abundantly in India, Sri Lanka, Pakistan, and Indonesia, and is cultivated in China and Thailand. I have used this herb very successfully in my practice for many years for viral conditions of all sorts, known and unknown. It acts by blocking an enzyme



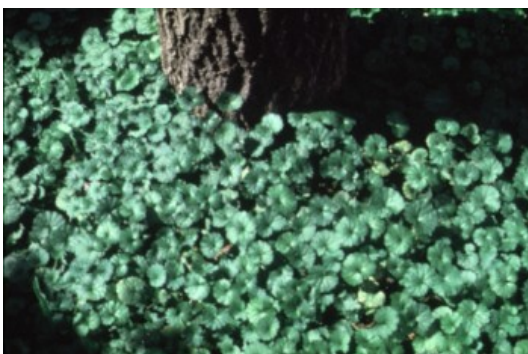
known as reverse transcriptase, which viruses use to translate genetic information into a form it can use to replicate. This herb was first used by used in Ayurvedic medicine, and then found its way into Chinese Medicine. Recent studies have demonstrated its ability to protect the liver and help the liver regenerate itself. It has the added benefit of hindering the replication of viruses by altering cell-to-cell transmissions, so it is especially supportive against the hepatitis virus. I use it all the time for liver problems of any kind; it seems to have a real affinity for liver and gallbladder complaints. It is classically used throughout Asia to treat GI tract and upper respiratory infections, fever, herpes, sore throat, and a variety of other chronic and infectious diseases. In Traditional Chinese Medicine, *Andrographis* (*Chuan Xin Lian*) is an important "cold property" herb: it is used create balance by cooling the heat of fevers, and to clear "heat-toxins from the body. In Scandinavian countries, it is commonly used to prevent and treat common colds. Swedish research conducted in the '80's and '90's has confirmed that *Andrographis* has been extremely beneficial in the treatment of influenza. Its actions are manifold: 1) anti-inflammatory: it reduces swelling and cuts down exudation from capillaries; 2) antibacterial: fights bacterial activity; it appears to have a weak direct action, yet can be remarkably beneficial effect in reducing diarrhea and symptoms arising from bacterial infections; 3) anti-malarial: counteracts periodic/intermittent diseases; 4) helps prevent blood clots, preventatively; 5) helps fights, even kills, cancer cells; 6) cardio-protective: it protects heart muscles and researchers have reported that an extract of *Andrographis* was effective for lowering blood pressure; 7) it supports and alters the properties and flow of bile; 8) cleans and purifies the blood; 9) immune enhancement: increases white cell (scavengers of bacteria and other foreign matter) phagocytosis, inhibits HIV-1, hepatitis B and C, influenza virus replication, and improves CD4+ and T lymphocyte counts; 10) it is a mild relaxing herb.

Its the leaves contain the highest amount of andrographolide (2.39%), the most medicinally active ingredient to yet be discovered in this plant. The other medicinal ingredients are also its most bitterest tasting principles diterpenoids viz. deoxyandrographolide, -19 β -D-glucoside, and neo-andrographolide, all of which have been isolated from the leaves. Andrographolides are thought to enhance immune

system functions such as production of white blood cells release of interferon, and activity of the lymph system. For Liver & Gallbladder protection this is a major herb in at least 26 classic Ayurvedic formulas used to treat liver disorders. Four of its related medicinal compounds were tested for a protective effect against liver toxicity produced in mice by poisoning them with a cleaning solvent, alcohol, or other toxic chemicals. These chemicals damage the liver by a process whereby free radicals produced by the chemical attack and destroy cellular membranes that surround liver cells. When the Andrographis were given to animals three days before the toxic chemicals, there was a significant protective effect in the liver. This effect was attributed to the antioxidant ability of the Andrographis compounds. In another case it was found was more potent than silymarin in milk thistle, the famous liver-protective herb. Infective hepatitis is an acute inflammatory condition of the liver. It is often followed by liver cirrhosis. Ancient Ayurvedic physicians used treat similar liver ailments with Andrographis, a study was conducted to evaluate the effect of AP in infective hepatitis. There was marked improvement in most patients tested. The andrographolides also appear to be potent stimulators of gallbladder function. In animal experiments, those that received andrographolides for seven consecutive days showed an increase in bile flow, bile salts, and bile acid, helping to improve gallbladder function. This is definitely an Ayurvedic herb we will be hearing much more about in the future.

Gotu Kola, *Centella asiatica*

Gotu Kola one of the herbs known in Ayurveda as 'Brahmi' -- it is regarded as perhaps the most spiritual of all herbs. Growing in some areas of the Himalayas, Gotu Kola is



used by yogis to improve meditation. It is said to develop the crown chakra, the energy center at the top of the head, and to balance the right and left hemispheres of the brain, which the leaf is said to resemble. It is regarded as one of the most important rejuvenative herbs in Ayurveda

the legend also goes that Sri Lankans first noticed that elephants, known for their

longevity, munched on Gotu Kola leaves and the herb thus gained a reputation for promoting long life. An ancient Sinhalese proverb says: "Two leaves a day will keep old age away." Gotu kola is a perennial plant native to India, Japan, China, Indonesia, South Africa, Sri Lanka, and the South Pacific. An ancient Ayurvedic herb, Gotu Kola grows as a slender, creeping, herbaceous plant in the swampy areas. It is a tasteless, odorless plant. It has small fan-shaped green leaves with white or light purple-to-pink flowers. The leaves and stems of the Gotu Kola plant are used for medicinal purposes. This is one of the most famous Ayurvedic herbs. Said to 'aid knowledge of Supreme Reality'. It is a revitalizing herb that relaxes the mind while improving concentration and for revitalizing the nerves and brain cells. One study showed a significant improvement in memory and behavior patterns when administered to mentally retarded children for a period of twelve weeks; the study showed the children increased scores on intelligence tests. Two glycosides, brahmoside and brahminoside, have been shown to exert sedative and hypoglycemic effects in experimental rats. It strengthens nerve function and improves memory, calms anxiety, insomnia, epilepsy and hyperactivity. For thousands of years it was noted to be also good for many skin disorders. It has a long history for chronic venous insufficiency, minor burns, varicose veins, and poor concentration more recently it has been used to reduce cellulite. Research has found the saponins, asiaticoside, madecassoside, and madasiatic acid to be the active constituents responsible for Gotu Kola's effect of enhancing development of normal connective tissue matrix. Gotu kola also seems to help improve blood flow through the veins in the legs. In one study, it improved such symptoms as heaviness in the lower legs, numbness, nighttime cramps, swelling and distended veins. It has long been a valuable herb for any wound healing after surgery or trauma; it has also become popular for treating varicose veins and cellulite. One of Gotu Kola's actions is a balanced effect on cells and tissues participating in the process of healing, particularly connective tissues. One of its constituents, asiaticoside, works to stimulate skin repair and strengthen skin, hair, nails and connective tissue

Gotu Kola is traditionally used as a revitalizing herb and mind relaxer that promotes concentration. It strengthens nervous function and memory and is also used as a tonic. In Ayurvedic medicine, Gotu Kola has been used classically for thousands of years as a

major cleansing herb, especially for skin disorders. It is useful for healing wounds, soothing digestive problems, and relieving Apply as an external wash to skin irritations and even acne. The main compounds for Gotu Kola are known as the triterpenoid these compounds in animal studies indicate that triterpenoids strengthen the skin, increase the concentration of antioxidants in wounds, and restore inflamed tissues by increasing blood supply. The major triterpenoid components are: asiatic acid, madecassic acid, asiaticoside and madecassoside. Saponin glycosides include brahmoside and brahminoside. The plant is also a source of calcium and sodium. Gotu Kola is often confused with kola nut that has caffeine Gotu Kola is not related to kola nut and contains no caffeine.

Caution: Gotu kola should not be taken during pregnancy. Gotu Kola is known to thin the blood.

The Bio-Pirates are coming, the Bio-Pirates are coming!

The Neem Tree (*Azadirachta indica*) Turmeric (*Curcuma Longa*) and the Bio-Pirates

“Consider the implication of 'turmeric patent' #5,401,504. If an expatriate Indian in America sprinkles turmeric powder -- just as her ancestors in India have done for centuries-- on her child's scrape, she would in fact be infringing US patent laws and was open to prosecution.”

--D V Sridharan , www.goodnewsindia.com

Imagine the Pirates are anchored off the Malabar coast off of Kerala in Sothern India. It is the Seventeenth Century; they may be valiant explorers and sailors in service of their own nations navies, or they maybe from any European Nation looking to expand its plundering (I mean their national interests). They are streaming ashore and they return with their booty... the uprooted peppervine (Turmeric). They have plundered the turmeric pepper business. Fast forward to October, 1996, when the prestigious New Scientist magazine wrote under the title, "Pirates in the garden of India" that similar plunder is happening right now and the pirates have traded-in their eye patches and swords and skull and cross bones and for suits corporate logos and all in the service of

their own corporate interests! Is it some discovery they have made? Is it some great breakthrough made by modern science? No. The Indians have used both neem and turmeric for many thousands of years, for the same purposes and extractions, it's just not known in Western Patent offices, that's all. Neem was granted a patent for about five years until May 10, 2000. At the conclusion of a two-day Oral Proceeding, the Opposition Division of the European Patent Office (EPO) this revoked in its entirety Patent number 436257 and turmeric has won its battles too.

India fights off two, yet more on the Horizon

According to Mr. D. V. Sridharan, "Two battles won indeed, but there are many ahead. London's Observer reported that there were more than 100 Indian plants awaiting grant at the US patent office. And patents have already been granted to uses of Amla, Jar Amla, Anar, Salai, Dudhi, Gulmendi, Bagbherenda, Karela, Rangoon-ki-bel, Erand, Vilayetishisham, Chamkura etc, all household Indian names."

Turmeric (Curcuma Longa)

For thousands of years, turmeric powder healed open wounds. Drunk with warm milk, it



stems coughs, cures colds and comforts throats. Indians paint doorways with turmeric paste as an insecticide. Women in the south make a depilatory skin cream with it. Today it is used in clinical practice by many herbalists around the world for atherosclerosis, bursitis, inflammation, and rheumatoid arthritis. In Indian Ayurvedic

Medicine, turmeric is used for the treatment of anorexia, liver disorders, cough, diabetic wounds, rheumatism, and sinusitis. It is currently being evaluated for its anticarcinogenic and antimutagenic properties. Wound treatment: sprinkle a bit of turmeric on cuts and scrapes after they have been thoroughly washed. The turmeric, with its antibacterial action, will prevent the bacterial wound infections. Digestive aid: turmeric helps stimulate the flow of bile, which helps digest fats. Intestinal parasites: turmeric fights protozoans in laboratory tests, supporting its traditional use in treating dysentery. Liver

protection: curcumin has a protective effect on liver tissue exposed to liver-damaging drugs. Its antioxidant activities are well known to cooks in third world countries; recent research shows that meat kept in turmeric marinade lasts twice as long outside of refrigeration. Arthritis: turmeric's anti-inflammatory action helps relieve wound inflammation and in treating arthritis. Heart protection: studies have shown that turmeric may help reduce cholesterol. It is also shown to prevent the internal blood clots that trigger heart attack and some strokes. Others: recent studies show promising results on the use of turmeric to treat cancer. It is believed to inhibit the growth of lymphoma tumor cells. Another study has shown that turmeric helps prevent tumor development in animals.

The Neem Tree (*Azadirachta indica*,)



Neem is a fast-growing evergreen of up to 20 meters in height. The tree has always been associated with wisdom and immortality and its recent scrape with Western bio-pirates was settled with wisdom. Hindu scripture describes a celestial tree having its roots in heaven and its branches in the underworld that unites and connects beings of all kinds. Ancient Indian texts refer to Neem as *Sarva Roga Nivardini*, "the curer of all ailments." The neem tree grows in tropical climates but is especially plentiful and revered in India. The *Upavanavinod*, an ancient Sanskrit treatise dealing with forestry and agriculture, cites neem as a cure for ailing soils, plants and livestock. Neem cake, a residue from the seeds after oil extraction, is fed to livestock and poultry, while its leaves increase soil fertility. Scientists also echo this ancient knowledge calling it one of the most helpful plants on earth, while Indians consider it sacred. Its bark, leaves, flowers, and seeds are used to treat a variety of illnesses including leprosy, diabetes, ulcers, and skin disorders. The twigs are used as an antiseptic toothbrush while the seed oil is used to make toothpaste and soap. Neem oil is known to be a potent spermicide and is 100% effective when applied intra-vaginally before intercourse. The powdered leaves are used for facial cream. In northern India, the bark of the Neem tree is used for

treating wounds. The leaves, fruit pulp and flowers of Neem all have anti-septic properties. In southern India it is considered a tonic. In the northwest it is prescribed for liver complaints and worm infestation. According to Ayurvedic medicine, the tree possesses powerful cooling energies that act as an anti-inflammatory and antiseptic in cases of excess heat. Neem can be used to treat imbalances involving fire such as skin eruptions and infections. A powerful blood purifier, neem is often used in Ayurvedic detoxification programs.

Then W.R. Grace started researching this plant and found that the oil from the seeds is a powerful insecticide, repelling more than 200 species of bugs. Neem disrupts an insect's metamorphosis. It is most effective on younger stages of an insect's development. It also makes an excellent antifeedant and repellent when sprayed on plant foliage. It has an extremely bitter flavor, which can make many insects stop feeding. One of the most gratifying points of neem to W.C. Grace and to Gaia is that as an insecticide, it is an organic. The neem's many virtues are to a large degree attributable to its chemical constituents. The tree contains several potent compounds, notably a chemical found in its seeds named azadirachtin. Having garnered their patents and with the prospect of a license from the EPA, Grace set about manufacturing and commercializing. For centuries, the Western world ignored the neem tree and its properties: the practices of Indian peasants and doctors were considered too lowly by the majority colonialists. However, under U.S. law, a process or substance or invention may receive a patent--which is a temporary right of exclusive use and production--if it is novel, useful, and not obvious. In short, the processes are supposedly novel and an advance on Indian techniques.

However, this novelty exists mainly in the context of the ignorance of the West. Over the 2,000 years that neem-based biopesticides and medicines have been used in India, many complex processes were developed to make them available for specific use, though the active ingredients were not given Latinized scientific names. Common knowledge and common use of neem was one of the primary reasons given by the Indian Central Insecticide Board for not registering neem products under the Insecticides Act, 1968. The Board argued that neem materials had been in extensive use in India for various purposes since time immemorial, without any known deleterious effects. The reluctance

of Indian scientists to patent their inventions, thus leaving their work vulnerable to piracy, may in part derive from recognition that the bulk of the work had already been accomplished by generations of anonymous experimenters.