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The excavation in full progress

DOMINIQUE DARR PHOTOGRAPHER, CENTRE D'ART AUROVILLE

Matrimandir excavation 40 years ago

On the 14th March, 1971, the excavation began for the foundation of the Matrimandir. Mother sent the following message for the occasion: *La fraternité de la collaboration. L'aspiration vers l'Unité dans la joie et la Lumière. Bénédiction.* (The fraternity of collaboration. The aspiration towards Unity and joy and Light. Blessings.) Here are some Aurovillians' memories of the excavation work.

Alain Grandcolas remembers:

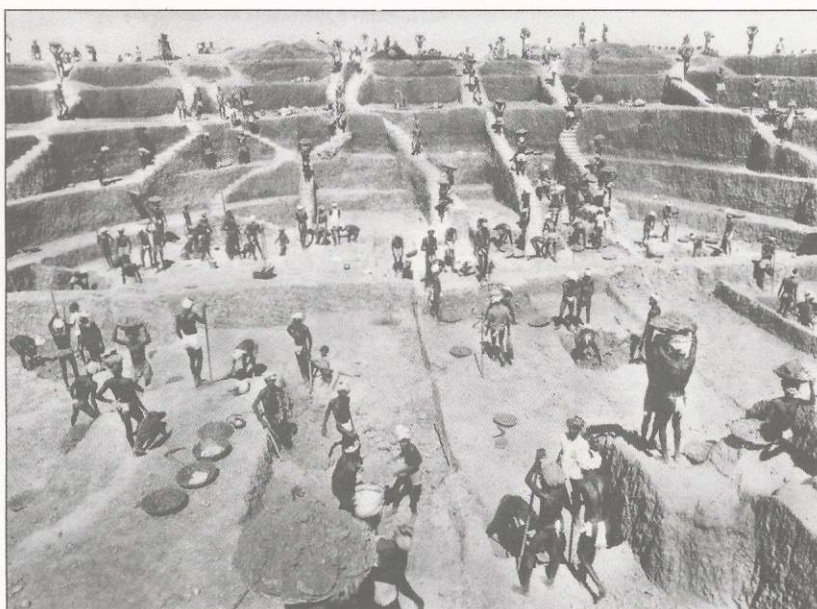
There have been two foundation ceremonies for the Matrimandir. The first occurred at dawn on 21st February, 1971. At that time, the land on which the Matrimandir was to be built had not yet been purchased. Therefore it was decided to lay the foundation stone between the Banyan tree and the centre of the future Matrimandir. A hole more than two metres deep was dug and a sandalwood casket given by The Mother was placed within it. I'm not sure that anybody knows what was inside the casket. Nolini placed the casket, as requested by The Mother, and a grey granite stone was placed above it at ground level to mark its position. However, after we began excavating the Matrimandir crater that stone was covered over by earth and today nobody knows where the stone and the casket are.

We purchased the land for the Matrimandir construction in early March 1971 and digging started on 14th. To begin with, only Aurovillians did the digging because the Mother wrote in February 1971 that "it is preferable that the work be organised without paid labour so that it is sure to continue in all circumstances". We all understood by

this that the Matrimandir had to be built only by the 'holy people', in other words, the Aurovillians, the Ashramites and volunteers.

On the first day I came with a theodolite and Kalya (the Mother's great grandson) and I located the centre of the future Matrimandir. We were using the Urn and the Banyan tree and doing a triangulation to find out where the centre should be. At the beginning

few people came to dig, but very soon, on a daily basis, 20 people would come from Aspiration and work between 6-8 a.m., 40 people would work between 8-12 and another 20 people in the afternoon. The Ashramites would come every Saturday night after 10 o'clock when the Ashram film was over. Two buses would bring them here and they would work until four or five o'clock in the morning, digging the excavation.



Early Aurovillians starting the excavation.

On Sundays, many other Aurovillians would join in.

I remember I kept pestering Roger to get a drawing so we would know how wide and deep the excavation should be. Then Nata was put in charge of the construction of Matrimandir and he got the same treatment! Finally, in August, Nata asked Piero to do the drawing. When Piero gave it to us we discovered that the excavation crater had to be 15 metres deep and 50 metres wide, which was about ten times bigger than we had thought!

I made a calculation of how many cubic meters we had excavated in the past five months and how long it would take to excavate the rest. Even if we doubled the number of Aurovillians digging, we would not finish the excavation by February, 1978! This was the date we had set for the completion of the

14.3.71
La fraternité de
la collaboration
L'aspiration vers
l'Unité
dans la joie et
la lumière
Bénédiction

Matrimandir as it would have been Mother's 100th birthday and she had said that for her centenary she would come to Matrimandir. But how were we going to complete it in time?

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Navoditte remembers:

There was no hubris in this act (that came later). No bickering. No cynicism. Nothing of the mind at all. Lots of laughter. No one complained that we were not very well organized. No one seemed reluctant to go out into the mid-day sun for something they thought they might not even see completed. The pit was simply something that needed to be dug; we just felt lucky to be digging it.

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Matrimandir excavation 40 years ago

Shraddhavan remembers:

The foreground of this photo shows a young woman using a mumpiti to fill a wheelbarrow with earth. At a little distance is a young man loosening earth with a crowbar, and in the background is a chain of people passing chetties full of earth up on to the lip of the deepening crater.

The young woman is myself, not yet Shraddhavan but still Maggie, the young man with the crowbar is called Patrice, and he has come along with me and several other people from Aspiration in a jeep in the early hours of the morning. I vividly remember the moment when this photo was taken by Indra Poddar (whose name I didn't know at the time), for I did not feel very pleased that someone was wandering around with a camera when we were all working so hard—I didn't realise that he was documenting something momentous in Auroville's history. I don't think that this photo can have been taken on the very first day of the digging, which I'm told was March 14, 1971, for quite a signifi-



Shraddhavan (then called Maggie) and Patrice (foreground) digging the crater

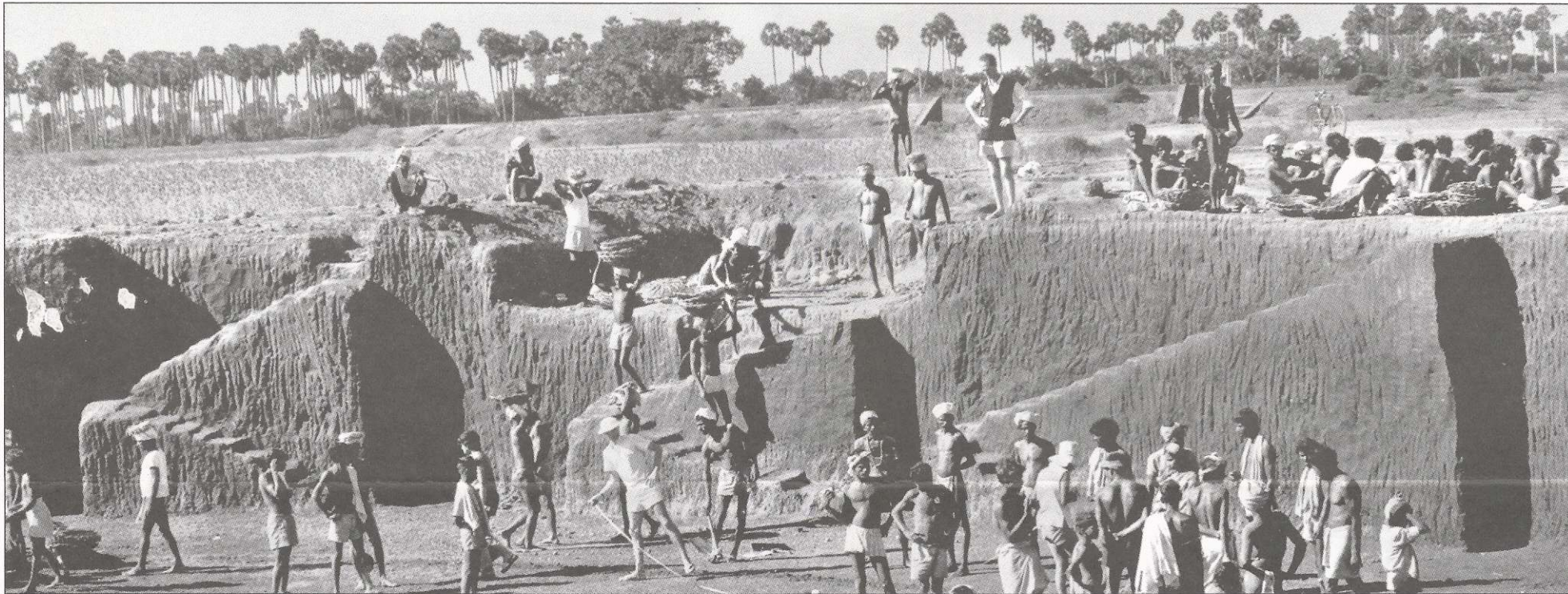
cant amount of earth has already been removed.

I was never a regular Matrimandir worker, but in those early days, when I had been in

Auroville only four months and was working in the newly-opened Aspiration School, I did join other people from Aspiration for an hour or two

before breakfast to contribute to the effort. We were woken up before dawn (I suppose around 5 a.m.) and piled into a jeep and driven through the dark to the spot just east of the Banyan tree, where we worked for a couple of hours before being driven back again for a shower, breakfast, and the start of the real working day. I did not really know anything about Matrimandir in those days—none of the Mother's talks to Huta and to Satprem about it had been published at that time; but the people I knew seemed to think it was very significant, and it was clear that the Mother wanted it to happen.

In November, 1971, the digging work was taken up by local villagers. By February 1972 the crater was complete and there was an amazing ceremony for the first concreting—a couple of thousand people stood in line on the rim to put one stone each into the mixer; under the east pillar was laid a stone on which the Mother had written the OM sign and 'Blessings'. After that there was a series of 24-hour concretings, when the work went on with the regular workers during the daytime, and at night people from all over Auroville and from the Ashram joined in to carry on through the night. Those were truly wonderful and unforgettable occasions.



Alain Grandcolas (centre in white) measuring the work completed. Piero (top) looks on.

Alain Grandcolas remembers:

continued from page 1

Through Roger I sent word to The Mother that there were three possibilities to speed up the excavation work. One would be to use a big excavating machine from Neyveli Lignite. With this machine working day and night the rest of the excavation would take 10 days. Another option would be to use a smaller JCB earthmover, and that would do the job in three months. A third option, which I mentioned reluctantly, almost in passing, was to employ villagers. I calculated they could complete the work in six months and it would be more expensive. When Mother said, "You work with the villagers, it will give them work," we were shocked since we did not want any 'paid labour'. We all said no, that's not possible. We thought that Mother had been influenced by Roger.

Finally, Ramanathan and I started studying the possibility of working with the villagers. I reconciled myself to this option because I told myself they're just removing earth, they're not building the Matrimandir. Ramanathan organized two teams of 20 people each from Kottakarai and I shifted from Pondicherry to the Matrimandir Workers Camp to organise the work. On 5th November, 1971, the villagers began the excavation of 20,000 cubic metres of soil.

At first, almost all the Aurovilians were against this option. They told me, if you bring the villagers we will stop coming to dig. But I continued, helped in the organization of the villagers' work by two other Aurovilians, Gérard Maréchal and Olivier (later known as Subir). For the first five days after the villagers began work no Aurovilians came to dig. Then, after one week, the first Aurovilian came back and resumed digging. It was Larry. After daily discussions with other Aurovilians, we came to an agreement that the centre of the excavation, a three metre diameter circle where the Mother's symbol would be in future, would be dug only by the Aurovilians. All the rest would be dug by the villagers.

So then the Aurovilians from Aspiration began coming again in the morning to dig only in this small place. At the beginning they dug quickly and

soon there was a hole in the middle of the excavation. But as the number of villagers increased the ground became flat. Finally, the Aurovilians were on a column about 50 centimetres higher than the rest because the villagers around them were digging so much quicker! Soon the Aurovilians stopped coming altogether.

By now we had increased the size of the workforce from 40 up to 464, almost all of them drawn from the neighbouring villages. Each team had one team leader and 19 others and each team was given one section to excavate. The excavation was divided into 24 sections, and every Friday evening we measured how deep each section was. The villagers were paid according to the cubic meters of soil that they had excavated during the week.

One day, it was the 5th December, Gérard, Olivier and I were eating breakfast after we had given out the tools and allocated the work when, suddenly, we heard a big noise coming from the excavation crater. We ran over and saw that in the crater most of the workers were fighting. A worker from one team had stolen a well-sharpened crowbar from another team. I went down and I told them that this is a place for a 'kovil', a temple, so if you want to fight you have to go and fight elsewhere. And that's what they did. In a moment, I was on my own in the crater, and, looking up, I could see everybody running and fighting around the perimeter above me! I clearly remember Gérard protecting with his body one badly beaten worker who was lying on the ground.

Later we came to know that this was the day on which India had declared war on what was then East Pakistan. From that date, it

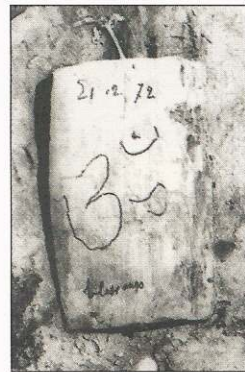
started raining every day on the digging work. Then, one evening, there was a beautiful sunset and I remember Stephen, the Aurovilian who was pumping out the water every morning, saying that now the rain would stop. The next day it stopped and it was on this day that the armistice in East Pakistan was declared. Interesting, no?

The villagers started excavating on 5th November. The excavation was finished by the beginning of February, 1972. On 21st February we held a ceremony to mark the beginning of the concreting for the foundation of the Matrimandir. We wanted to do something that had some nobility so we didn't want anybody to be down in the excavation itself: everybody would be standing around the perimeter. But one Aurovilian,

Mali, did not obey. He went down and stood by the symbol; it was beautiful and was immortalised by a photograph (see below). Meanwhile, the Aurovilians and Ashramites above filed by a cement mixer, and each put a pebble in the mixer.

Some time earlier, when we were digging the crater, we had unexpectedly found one fossilized piece of wood. I took it and was using it to block the door of my hut in the Matrimandir Workers' Camp against the wind. For this ceremony I rather reluctantly gave it to Mother who was asking for a stone. She wrote upon it "21.2.72" along with the symbol for AUM and "Blessings". It was placed under the future east pillar of Matrimandir.

From an interview by Alan



The Foundation Stone

future east pillar of Matrimandir.



February 21, 1972: Ceremony in the crater to mark the beginning of the concreting for the foundation of the Matrimandir. Mali stands to the left of the integrated symbols of Sri Aurobindo and The Mother.

New rail link planned near Auroville

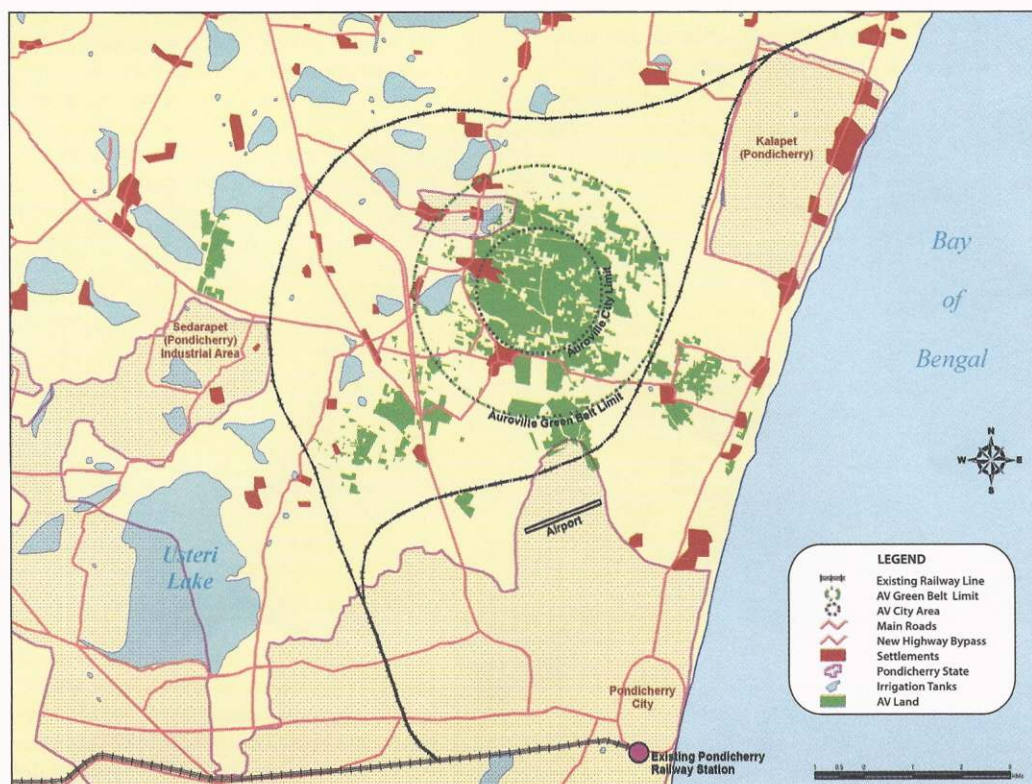
L'Avenir, Auroville's town planning group, and Prashant have met twice recently with representatives of the Indian railways. The topic is a planned new rail link between Chennai and Cuddalore which could pass in the vicinity of Auroville. The northern part of the new line seems to have been decided upon. It will begin at Chennai Egmore and up to Chengelpet it will be the main Chennai-Trichy line. A new line will be constructed from Chengelpet to Mahabalipuram after which it will take the coastal route to Koonimedu, near Marakkanam. However, there are two possible routes for the stretch between Koonimedu and JIPMER and on to Pondicherry.

One proposed route would initially take it south. It would pass behind the Pondicherry University campus, skirt the eastern edge of Auroville's greenbelt before curving west towards JIPMER. The other route would see it pass through Kalapet before arcing to the west of Auroville through Sedarapet and on to JIPMER (see map).

The eastern of these two routes would clearly disadvantage Auroville much more. As the line will be elevated three and a half metres, it would cut easy access to the East Coast Road and the sea as well as bringing noise and disruption to the very edge of the greenbelt.

Prashant reports that before his last meeting with the railway authorities, they were actually favouring this route. However, he presented a number of arguments which may cause them to reconsider. Firstly, as the railways make their profits on goods traffic rather than passengers, the westward route makes more sense as a station would be situated at Sedarapet industrial estate and the Mettupalayam industrial estate would also be within easy reach. Secondly, the railways would like to serve the maximum number of people and, according to population data, this route would serve far more people than the easterly route. Thirdly, land acquisition would be easier for the western route as there are fewer landowners and larger plots of land in that area. The land prices are also cheaper here than those closer to the coast.

Another reason why the railway authorities were originally favouring the eastern route is because it is shorter and therefore cheaper to construct: it costs approximately 15 crores to construct one kilometre of rail. However, the western route is only 1.2 kilometres



Two possible tracks for the proposed Pondicherry – Chennai rail link around and through Auroville

longer, and the increased cost would be partially offset by the lower price of the land on this alignment.

How did the railway authorities respond to these arguments? Prashant believes they are more receptive now to the western route, particularly because of its proximity to industrial estates. He also reports that they want to work with Auroville to find the best route. In fact, they had already surveyed land in some of Auroville's forests and found them beautiful, so they didn't want to cut them for the new line.

So what happens next? The railway authorities have invited Auroville to submit a note explaining our concerns and why we favour the western route. This will help them in writing the Detailed Project Report (DPR) which will be sent to the Railway Board in Delhi. The Board will then make a decision which has to be endorsed by the Cabinet Committee on Economic Affairs, headed by the Prime Minister. Whichever

option is approved will then be referred to the Planning Commission, which will allocate the funds.

All this will take at least 18 months. Only then will the process of land procurement begin, and nobody knows how long that could take. Once this is completed, there will be a call for tenders and only then will construction begin. It is expected that this 180 kilometres line will take three to four years to construct.

Originally, there was talk of there being a high-speed line, but that discussion is still at the Railway Board level. One reason this is not happening as yet is the astronomical cost of such a line (almost 200 crores a kilometre). However, the line being planned will transport passengers from Pondicherry to central Chennai in about two and a half hours: it will be faster, safer, comfortable, earth-friendly and much cheaper than going by taxi.

Alan

In brief

Happy birthdays!

The Working Committee sent gifts to Governing Board chairman Dr. Karan Singh and to member Ajoy Bagchi, who both were celebrating their 80th birthdays on March 10, in token of appreciation and gratitude for their work done for Auroville.

Born at the right time

A 25-minute documentation showing glimpses of Auroville, made by Doris and Francis, can be seen at <http://www.youtube.com/watch?v=gmpvHuxNBiw>

Auronet

A 'Pulse' question has been put on Auronet regarding the quality of the discussion on the forum, after the Auroville Council suggested that the discussion sector be shifted from the home page. Results will be published.

Unacceptable behaviour

The Auroville Council has stated that whoever purchases land in his/her own name in the Auroville Master Plan area or tries to sell his or her house in Auroville goes against the basic principles of Auroville. The Council also stated that going to Indian and foreign authorities to air personal grudges or denounce other Aurovilians is unacceptable behaviour and places the person who does so out of bounds.

Land sales

The Funds and Assets Management Committee has proposed that 50% of the proceeds of the sale of outlying and unused lands outside the Master Plan area will be used for the purchase of land within the City or Greenbelt area, 30% for the creation of new housing and housing infrastructure and 20% for the creation of infrastructure which promotes and support Auroville's commercial and service activities.

Accessible Auroville

A two-day workshop on how Auroville can be made accessible to all, including differently-abled people, was conducted at the beginning of March by the Samarthyan Organisation from New Delhi. The workshop addressed issues such as the principles of Universal Design and strategies for implementing accessibility codes and guidelines for Auroville.

Auroville Archives appeal

The Auroville archives is video-recording Aurovilians who describe what they have lived through and contributed to Auroville. So far, about 200 Aurovilians have participated and the Archives appeal for more people to join in. The records will be made available to future research scholars to study the growth of Auroville as a Living Laboratory of Human Unity.

Land purchase

The land purchase appeal made in the birthday week (February 21-28) resulted in a total donation of Rs 5,80,000.

Early Auroville

Thirty-six photos made by Walter in the period 1970-1975 showing the early Aspiration community and Kuilapalayam have been posted at <http://aspiration.auroville.com/walter.html>

SPIRITUALITY WORKSHOP

Exploring states of consciousness in the Telos workshop

Telos, based on Sri Aurobindo and Mother's teachings, is an approach to making Integral Yoga accessible and experiential in everyday life. After two years of extensive studies, on 6th of March Manoj and Arul offered a one-day workshop in Verité's Integral Learning Centre to introduce their method.

“We will keep silence as much as possible throughout the workshop,” began Manoj. 18 Aurovilians had grouped in a semi-circle around Manoj and Arul while the *Om Namo Bhagavate* mantra played like an imperceptible heart-beat in the background.

Manoj then explained how the Silent Zone, a silent, relaxed yet a highly-alert state of mind, is an essential condition required to explore the finer movements of consciousness. We entered this state with a very simple exercise where we extended the listening to the furthest point while being fully aware of our body sitting on the chair. The process expanded into inclusion of seeing with surround vision and within minutes we felt a deep silence and peace settling in.

Moving deeply into silence we then started our journey of exploring various states of consciousness beginning with the physical consciousness. We gently moved out of our chairs by exaggerating the heaviness of our body and feeling the inertia and gravity of matter and heaviness of Tamas. “As if we are dragging ourselves out of bed in the early morning,” said Manoj guiding the process. As we did these movements and continued the exploration he instructed, “Now start to inhale and stretch, then notice the difference.” We moved from a dull inert state of physical consciousness to an awakened stability of physical consciousness by stretching the body fully and breathing through the whole body.

“Habits become imprinted in our physical consciousness and the only lan-

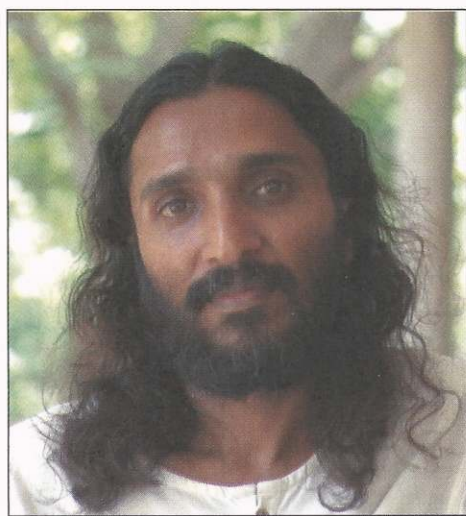
guage the body understands is the language of repetition, and it is for this reason advertisements are mindlessly repeated. To change a habit or to establish a new habit it is necessary to address physical consciousness and this requires repeating an act a large number of times till the new pattern is imprinted in the physical consciousness,” explained Manoj.

We explored each of the six instrumental layers of consciousness through direct experience with various physical exercises. We enacted states of fear, repulsion, desire, anger, hatred, power, sorrow, pain, love and joy depending on the state of consciousness we were exploring and were surprised by the rapidity of the bodily and emotional changes and how they are connected to various centres in the body and their corresponding consciousness.

Exploration of each state through body movements was followed by a questionnaire where we could assess each state. It was often very revealing and directly illuminated our weaknesses in a particular area. “Once you know which state is inadequately developed you know what to work on,” pointed out Manoj.

The Lower Vital occupies itself with sensual pleasure, desire and fear. A table of various foods and objects were spread out and we were invited to be aware of our reactions to them from the basis of a silent mind. The rising of greed, disgust and criticism were very easy to see.

The Central Vital is the seat of power, passion, expansion, achievements and challenges. When we had ticked: ‘When challenged I prefer to



Manoj

draw into myself’ or ‘It is difficult for me to work in a team,’ this was a deficiency that may need some attention. After lunch we also saw how the inertia of the Physical Consciousness was settling in and how one can bring in the dynamism of Central Vital to wipe out the inertia.

The Higher Vital is the seat of love, relationships and emotional sensitivity. Simple group exercises gave us freedom to express and receive warmth and some of the group became very emotional when something was touched or released in them.

The Externalising Mind dominates sense-bound knowledge, communication and practicality. “Modern man suffers from an excess of this,” Manoj pointed out.

Thinking and Dynamic Mind gives us vision, will and philosophical knowledge. An imbalance shows up when we act before we understand a problem and

waste a lot of effort. Or when our mind is clouded and we are lost in analysis and never get into action.”

We further explored methods of how to transform problems related to each state of consciousness by following simple psychological processes guided by Arul. Every process involved consecration in attunement with the inner guide and time for assimilation and note taking.

The seventh state is referred as the Spiritual one where illumination, intuition, and knowledge by identity can flourish and through guided process we explored what it means to open upward from above the head and enter into a receptive silence.

“The seven states of consciousness are like Krishna's flute where all seven stops need to be clear and open,” said Manoj. “If one is blocked the music of the soul cannot flow freely.”

Our last exercise, the invocation of the psychic being, the inner guide in us, had some of us almost in tears. During the process we walked slowly around the room holding small lighted candles in our hands and offered them to the soul, the psychic being, of the person who happened to be in front of us. It was a very moving experience.

Manoj told us that ‘Telos’ was a Greek word meaning ‘the study of purpose’ and the course was based on Mother and Sri Aurobindo's teachings, especially in *Letters on Yoga*. It was a course he and his friend, Arul Dev had developed to make Integral Yoga easily accessible and practical for our everyday life. They had given the first course in Chennai and this was their first offering in Auroville.

Dianna

Designing Citadines, Inspiration and Maitreye

At 34, Sonali Phadis has an impressive list of Auroville projects to her credit. They include the three apartment buildings of Citadines and Inspiration, the housing complex Maitreye and, as co-architect, the community of Creativity and the Mitra Youth Hostel. "I came to Auroville in 1999, fresh from Pune University," she says. "For five years I worked as an assistant-architect. It not only taught me the ropes but I also learned about the intricacies of Auroville, its social fabric, how relationships work, and the way the community functions." Those years gave her the solid background to start, in 2008, her own unit 'Metamorphosis', a name that hints at her own personal growth.

Citadines, Inspiration and Maitreye: apartments and houses for over 100 people

The two apartment buildings of Citadines, one with ground floor plus three storeys and the other with four storeys and an elevator, provides 30 apartments for about 50 people and an additional 1,300 square metres for common activities, such as an art centre and a collective dining room and kitchen. The Inspiration apartment building, with a ground floor and two storeys, hold 13 apartments for about 20 people and has 250 square metres common space. Maitreye has 17 residences for approximately 35 persons, with separate common spaces for parking and laundry.



One of the Citadines apartments

The three recent housing projects show Sonali's maturation. The parameters for the Citadines and Inspiration apartment buildings were set by Roger Anger. There had to be a minimum of 10 square meters per person for common facilities, which were to be located on the ground level; and all apartments were to be situated on the upper floors. "This was no problem at Citadines, where the ground floors of both buildings are used for common facilities. But in Inspiration we wanted to include differently-abled people. For them, we created apartments on an elevated ground floor, with a ramp access as there was no money for an elevator," says Sonali.

The main difficulty in designing apartment buildings for Auroville is to balance the requirement of privacy with density. "In Indian cities, apartment buildings are often situated closely together. They have glass windows and use air-conditioning. But neither are suitable or affordable in Auroville. So we have to design in such a way that sound pollution is prevented and there is still maximum cross-ventilation. For these reasons both Citadines and Inspiration occupy a substantial area of land."

The apartments in the Citadines buildings are arranged around common staircases, while the Inspiration apartments are located in four different building blocks that are inter-connected through elevated pathways. "The design gives

privacy to each apartment while keeping the feeling of 'one family,' says Sonali. "The long and narrow form of Inspiration allows for cross-ventilation in all apartments."

"In a way, Citadines, though larger, was the easier project," says Sonali. "My role was restricted to being the architect and providing the drawings. Others would take care of the execution and supervision. But in Inspiration and Maitreye, I was much more involved. I had to be there at each and every step, do all the peripheral jobs and do extensive building supervision."

Inspiration, moreover, was funded by a grant of the Government of India. This brought some special problems. "These types of grants are based on normal situations in Indian cities," she explains. "There, you just connect a new building to the existing infrastructure. But in Auroville most of that infrastructure has to be created. The water supply for Citadines and Inspiration, for example, had to come from the well at Ilaingnarkal; we had to build our own wastewater treatment plant and make access roads and pathways. Those additional costs are shared by all apartments, and that increases the square metre price beyond what is 'normal' for the government."

Is she satisfied with these buildings? "I like what I did," she says. "Both Citadines and Inspiration have a very nice balance of proportions and I like the apartment spaces." Yet, she

says, designing and building Maitreye was more fun. "It is more close to my heart – perhaps because I am going to live there, but probably because I feel that this housing project is more suitable to Auroville."

This view, she admits, is not shared by all in Auroville. "There is an ongoing debate that detached houses are not the answer to Auroville's housing needs and that we should concentrate on high-rise buildings. I think Auroville should have both. High-rise apartments can be very interesting and comfortable, and there should be areas in Auroville, like the Habitat Area behind the Town Hall, where this option can be fully explored. But there are also areas in Auroville where detached houses can be built. Maitreye is located where the city borders the greenbelt. That gave rise to its suburban character and this is in conformity with the Master Plan." She adds that feedback from others, particularly non-architect Aurovilians, has been enthusiastic – "Maitreye doesn't overpower you!" – and she has been asked to design the next phase of Maitreye in the same way. "There are many takers for these types of houses," she says.

The slightly scattered lay-out of Maitreye has its advantages and disadvantages. "Infrastructure is a bit costlier," she says. "But when we did the final cost comparison between an apartment in Inspiration and a high-quality apartment in Maitreye, we found that they came to about the same at around Rs 15,000 per square metre built-up area."

Maitreye's philosophy was to create affordable housing so that people who have little means could still enjoy comfortable living spaces. But this should not mean 'low-cost housing,' because Auroville's has experienced that today's low-cost is tomorrow's high-maintenance. "We refused to compromise on the fundamental elements that affect the lifetime of the houses," says Sonali. "We used natural building materials, such as stone foundations, instead of reinforced concrete beams. We also introduced some innovations: we used exposed hollow bricks for the walls and terracotta hollow blocks for the roofs. They have optimal strength and

In our May 2009 issue #243, Auroville Today reported on the start of five collective housing projects, three in the Residential Zone – Arati III, Realization and Luminosity – and two – Citadines and Inspiration (earlier called Joy) – in the City Centre. We also mentioned plans to start two new communities, Swayam and Determination, and to extend the communities of Surrender, Sailam, Progress, Prarthna, Courage and Sukhavati.

Now almost two years later, Citadines, Inspiration, Luminosity and part of Maitreye phase 1 have been completed or almost so. Construction work on some units of Realization and the second Arati III building is still going on. Work on Swayam community has started as have the extensions of

planning office how to shape the next phase: whether to do a similar layout or go for higher density," she says. She is, however, concerned about the spiralling prices of building materials. "In the last two years the prices have gone up tremendously, and we won't be able anymore to build the same houses for the same price. If we want to minimize costs, we have to think about new building materials. But there is not much research being done in this area and Alok Mallick's example of a house built with bamboo-reinforced mud has not yet found followers."

She smiles. "Auroville architects have a tendency towards a fixed mind-set and are often not willing to open up to the ideas of others. We all tend to work in isolation, sometimes with a few trainees, which is not healthy. We need to share more. Everywhere else in the world architects work in teams, where each benefits from the input of the others. That sharing I miss in Auroville. I don't mean that we should be working on the same design, but that architects should be open to receiving feedback on their concepts in order to improve the work."



Top: Part of the Inspiration apartment building
Left: two buildings at Maitreye

provide thermal and sound insulation, to minimize sound travelling from top to bottom." Working with these materials was a challenge for the masons. "We showed them videos to teach them how to use the bricks." Sound pollution between the individual houses is minimised by locating all buildings at slightly different angles from each other, so that sound doesn't bounce. "But in Maitreye as well as elsewhere, you have to be aware of the others. You can't blast your TV," says Sonali. She also mentions that the design incorporates lateral support structures to make them earthquake-resistant.

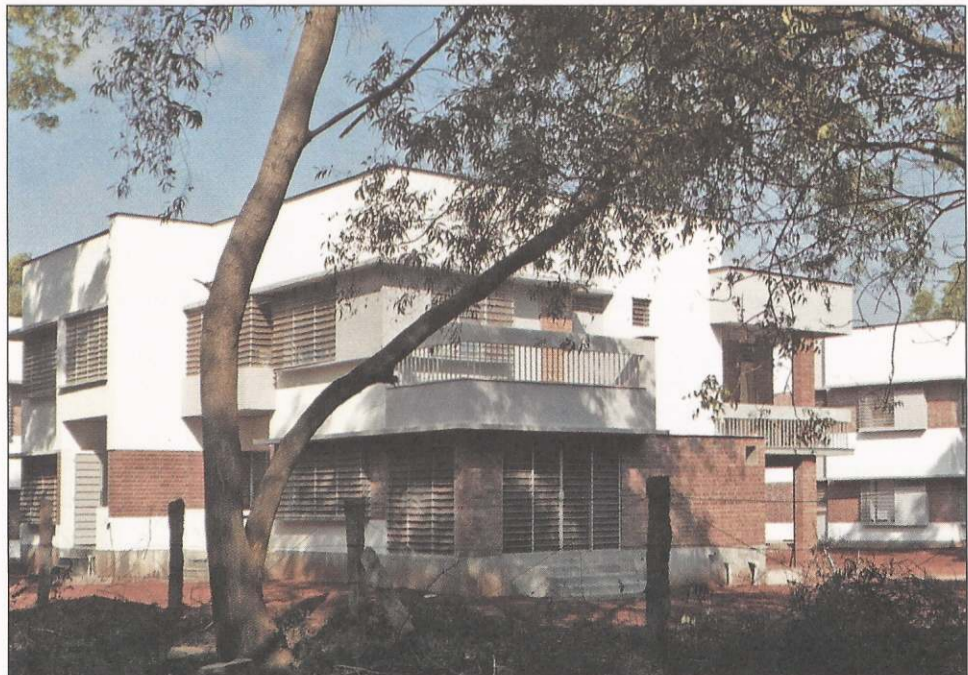
Now that the first ten apartments of Maitreye are finished, Sonali is working on the next phase of seven houses. "We will have to see with the

A new experience for Sonali is designing an institutional building: the office of the Sri Aurobindo International Institute of Educational Research (SAIIR), Auroville's educational umbrella organisation, next to the Auroville Foundation office. "This is a nice challenge, even though I am restricted in my design as I have to follow the architectural lines of the Town Hall and Foundation Office." Does she prefer doing residential architecture? "Certainly not! I would love to design a large institutional building. Savitri Bhavan, the Unity Pavilion, the Auroville Schools, they all are my favourites. I hope it will be a matter of time before I am asked to take up that challenge."

In conversation with Carel

The Maitreye housing project

Maitreye provided three qualities of finishing, from minimal to maximum, in accordance with the requirements and financial means of the residents. A single house with a built up area of 62 square meters and basic finishing ranges costs Rs 6,76,000, while a family house with two bedrooms of 86 square meters built up area with high quality finishing costs Rs 12,39,000. The prices include the provision of collective spaces for parking and laundry and an underground rainwater harvesting system, but exclude rooftop solar water heaters.



Labouring to build Luminosity

Surrender and Sailam. The other planned projects have not taken off.

For this issue we talked to architect Sonali, who designed Citadines, Inspiration and Maitreye, and to project holder Nadja, who was part of the team which manifested Luminosity, and asked them about their experience.

We also interviewed Alok Mallick who designed and built a bamboo-reinforced house in Adventure community in an attempt to demonstrate that low-cost high-quality building is feasible.

In a future issue we will cover the Realization, Arati and Swayam projects, as well as the extension of the Grace, Sailam and Surrender communities.



PHOTO COURTESY NADJA

“When architects David and Ganesh and I conceived Luminosity, we wanted to embody the ideas for ‘a temple for living and working in’ we had worked out with the dreamcatcher group. We were aiming to create simple, beautiful spaces that help one’s growth of consciousness,” recalls project holder Nadja. “We wanted to both incorporate new technologies as well as become an example for denser urban collective living in Auroville.” Has it succeeded? “Partially. We feel that we have manifested a beautiful building, with 11 simple offices sharing a bathroom and a kitchenette on the ground floor, 6 apartments on each of its two storeys, and a covered communal roof. But we have not, or rather not yet, been able to manifest all our plans for alternative technologies.”

We are seated on the roof, below a structure of galvanised iron sheets, enjoying the wind. The 600 square metre roof is divided into ‘quiet’ and ‘social’ areas, has a garden at each end, a laundry space with two common washing machines, a rain-water and a recycled water tank (the latter for flushing toilets and watering plants) and a reverse-osmosis drinking water filter. “This roof is for all of us,” says Nadja. “If you don’t wish to receive guests in your apartment, or if you simply wish to benefit from a wider horizon, you can take them up to the roof. The roof space is generous enough for different groups to have their meetings or socialize at the same time without disturbing each other. And if you want to meditate or enjoy the stars, you can sit in the gardens or on the top of the staircases.”

In an attempt to transform Le Corbusier’s maxim ‘A machine for living in’, which guided much of the housing development of the twentieth century, each apartment is conceived as a ‘temple for living in’. “We wanted to build apartments where one feels like one is on a covered terrace, where both sides can be completely opened or closed as required. But we also needed to provide overhangs as protection against the rain and sun,” says Nadja. “To make the most of this, we simply extended the metaphorical ‘terrace’ beyond the window line to add two full-length balconies, accessible from each apartment through full-height sliding doors – thus extending the entire interior when the doors are open.” The balcony on the north side, moreover, has vertical louvers which not only protect from the monsoon rains, but also modulate the light quality throughout the year. “We were

inspired by the Golconde building of the Sri Aurobindo Ashram in Pondicherry,” says Nadja. “But whereas that building has horizontal louvers, we opted for vertical louvers since we felt that being able to see the sweep of the ground and the sky is more uplifting. When all the louvers are open, the eye tends to ignore them and the ‘wall’ opens from top to bottom.” She recounts how, the other day, she surprised a hoopoe happily picking at some crumbs from her table. “We are fully in nature.”

Luminosity houses nine Aurovilians, two Newcomers and one Friend of Auroville. Five residents have an office, the other six offices are used by Aurovilians living elsewhere. Yet, Luminosity has not yet given an ‘open house’.

“We are not ready,” says Nadja. “We have had serious problems in realizing some of our alternative infrastructure projects.” She sums up. “The six dehumidification systems have met with unexpected delays. They were scheduled to be delivered in February last year; now it is March 2011 and we still don’t have them. It is quite disheartening, particularly as the summer is approaching and all the ducts and channels have already been built. We spent lakhs! So we can’t give up.” Also the two bicycle generators, where the residents can generate their own energy, have not arrived. “And then there is the 300,000 litre rain-water catchment tank which would make Luminosity independent from the water mains. The excavation has been made in front of the building, but now we can’t afford to complete the sand-filling. In summer 2010 we had made a contract to get 100 lorries of sand at Rs 3,600 a load but by the start of the monsoon, and after much struggle, they had only delivered 30 loads. Then the price spiralled out of control. It went up to Rs 12,000 a load, has now gone down to Rs 6,000 but this still implies that we would need to pay more than Rs 2 lakhs over our budget, and we simply don’t have the money!”

And what about using solar? “The infrastructure has been installed, but we are waiting for cheaper solar panels to come on the market. And we decided against solar hot water heaters. You mostly need hot water in the winter and during the monsoon, when there is not sufficient sun. The solar hot water systems in the market have a possibility for an inbuilt electric heater, but then you continuously heat the 75 litres in the tank while you only need 20 litres per 5-minute shower. That seems to us to be a waste of energy. We

have installed instant electric heaters, where only for the duration of your shower the water is heated by a electric coil which uses 1000-3000W according to the temperature selected. This was also much cheaper.”

Asked about her building experience, Nadja throws her hands up and admits that she has been working over her limits. “If you knew the dreams we had in 2007 when we drew the first lines of Luminosity! It would be totally different, we would build it on time, we would not need to ask for the inflation adjustment even though we had warned everyone it might happen! We talked about Luminosity as ‘our baby’, and we believed that, contrary to a real one, this one would not cause us sleepless nights and anxiety in the delivery. Yeah,

with what we could manifest and that we live in a community of beautiful good-willed people. We feel that, in spite of the difficulties we encountered, Luminosity is a success.”

Nadja admits that earlier decisions helped to lead to this greater workload. “Our biggest mistake was that we allowed residents too much leeway in indicating what they wanted in their apartments, and we often got long wish-lists. The mistake became obvious when four people dropped out and we had to find other residents for their tailor-made apartments. We were surprised when the new residents were quite happy to take the apartments as they were because, as they said, being part of Luminosity was more important. We should only have offered standard apartments!”



PHOTO COURTESY NADJA

South façade of Luminosity

sure! I’ve had nightmares, and probably have slept even less than I did after my boys were born. The worst time was when we started with the finishing: every time something got done, somebody else managed to destroy it again. And then the subcontractors didn’t deliver on time. We paid advances, and then they didn’t turn up for three weeks or more. The energy required to keep up the momentum was immense: we would phone them, remind them that they haven’t finished their work, and so on. They would regularly tell us in the early morning, ‘I’m on the way, madam!’ and then didn’t come till evening...it was simply all too much. I had dreamt that everything would be finished, the landscaping done and that only then people would move in. Well, that didn’t happen. The first person moved in September, the last in January, so we all have experienced living on a building site. It wasn’t a happy start.” And now? “David and I are just back from a brief holiday in Tranquebar. We slept on the way down, we slept most of the time in Tranquebar and we slept a little more on the way back home. And we are still tired. But having said that, considering our high ideals, we are very happy

A 70 square metre apartment has come to Rs 14 lakhs, including the common facilities. To that has to be added another Rs 1.65 lakhs for the alternative infrastructure such as the dehumidification system, the rainwater catchment tank, the recycled water system, the reverse osmosis filters, the common washing machines and the roofgardens. Including the tailor-made finishing, most people paid between Rs 18-19 lakhs.

The Luminosity community has meanwhile started to function. “It will take time before everybody has truly ‘settled in’ as there are so many collective spaces to be discovered and enjoyed. We have made four agreements amongst ourselves: we have no permanent workers; no pets; no changes which influence the façade and any changes in the building are made in consultation with the architects; and no private water-intensive gardens or fences so that anyone can walk around the building.” The first agreement implies that every resident takes responsibility for maintaining part of the common facilities. “We feel that this is an important aspect of living together in the yoga.”

In conversation with Carel

An artificial aquifer

The planned rainwater harvesting system of Luminosity consists of a pit 45 metres long, 5 metres wide and 4 metres deep, lined with a waterproofing layer of high density polyethylene (HDPE), and then filled with sand. The sand is then used to store just under half its volume of rainwater, after which it is pumped up to an overhead tank on the roof. As the level drops within the sand in the early months of the year, the remaining water is protected from evaporation by the depth of the sand above. The sand also serves as a filter; but to achieve a higher quality the water will again be filtered through carbon and also reverse-osmosis for drinking. The system should then be able to provide 100 litres of water a day for each resident of Luminosity throughout the year.



PHOTO COURTESY NADJA

The communal space on the roof

“This is *Alpinia galanga*, it’s a very special plant for throat problems. Here is *Cassia auriculata*, a very common tree but nobody knows what’s special about it – it controls diabetes. And that’s a curry leaf bush. We make oil out of the leaves: it is very good for the digestion and for healthy hair.”

Sivaraj is enthusiastically showing us around his carefully-tended herbal garden in Martuvam Healing Forest. Each of the two hundred species is identified by a signboard giving its Latin and Tamil name. “Even some local people can’t identify a lemon tree because they don’t even know where lemons come from. So I spend 2-3 hours showing groups around the garden, pointing out the different herbs and explaining their uses.”

Martuvam Healing Forest is an Auroville settlement in Annainagar, near Alankuppam village. Until 2002, the herbal garden in which we are standing was a cricket pitch. Sivaraj takes up the story. “For some time I had been looking for a place to start a herbal forest to provide medicines for the local people. Then some Aurovilians told me there was some barren land which belonged to Auroville close to Annainagar. I cycled over one evening and saw the area was crowded with villagers playing cricket. Immediately my heart went out to that land: I felt it was possible to do something here.”

Sivaraj consulted some of his Auroville green-worker friends. They were very supportive. Joss promised to provide the plants, others promised help in other ways. Ivar Jenten, who had lived in Auroville in the early days and who had started Isaiambalam School where Sivaraj was educated, agreed to fund simple housing.

“So I decided to go and live there with my wife and our three small children. I immediately started fencing and planting out the area, but even though I am a local – I was born in Kottakarai – the villagers were so angry at me for fencing off this land that they broke the fence and pulled out all the plants. Every day for weeks people would come screaming to my tiny house, and they would send their cows into the field to eat up anything I managed to replant. So I met the village leaders and explained that in the future there would be healing and environmental activities here which would benefit the villagers: that we were doing this for the village. Then the problem became less. But it took a long, long time.”

Those first years were hard. Apart from problems with the villagers, there was no well, no electricity, so Sivaraj had to buy and carry water from his neighbours to irrigate the plants. But he never lost his optimism: he felt Mother’s force there. In 2006, Lisa, a long-term friend of Auroville, came by and, concerned about the wellbeing of his children, agreed to fund a better house, a well and an electricity connection. Sivaraj had already started contacting traditional healers. “Most of them are very old people who use herbs to treat scorpion bites and bone fractures. I wanted to find out what they knew but also to make them feel important: these healers are neglected nowadays and the old knowledge is dying out. I’ve studied traditional

The Martuvam Healing Forest

Unknown to most Aurovilians, a healing and education project for the villagers has been running near Alankuppam for the past eight years.



Sivaraj standing in front of a *Cassia auriculata* bush.

siddha medicine myself so I know how effective this approach is.”

Sivaraj remained in contact with Ivar, who had set up the *Isai Maiyam Trust* in Pondicherry for orphaned children to study music. “As my infrastructure became better, I wanted to start programmes here so I offered that these children could come out at weekends to experience nature. This has gone well. Then, just nine months ago, one of their teachers told me that some of these children were so traumatized that they couldn’t focus on their studies. I spoke to Subash, the headmaster of Isai Ambalam School, and he agreed that seven of them, the smallest, could attend the school. Then Helga van Kolck, a Dutch lady who lives in Martuvam, and my wife and I decided they could live with us here. They need parents, so we will support them until they can stand on their own feet.”

Ivar’s Trust has two buildings in Pondicherry. Recently, it purchased a plot of land across the fields from Martuvam Healing Forest and erected a building on it. “That’s the Gayatri Art School,” explains Sivaraj. “Ivar’s dream is to empower the poorest village children through teaching them to become musicians, and that’s what happens over there. Brigitte is a part of that.”

Brigitte Vink, a young Dutch woman, comes across and sits with us. “I first met Ivar in Holland when we were both working in an organization for handicapped children. He was always telling these scary stories about India and I thought, ‘I’m never going there!’” Finally she made a brief visit to work with his organization in Pondicherry. It went well, so she visited again. And again. Meanwhile she started fundraising for the project in Pondicherry, Auroville and Holland, in which she was helped

greatly by Willem-Jan Aniel. “Now that Martuvam is established and the Art School is across the road, I’ve decided to stay and become a Newcomer and take care of the children in Martuvam, together with Helga. For the past two years I’ve been teaching music to the local children and those from Ivar’s project at the Art School and at Isai Ambalam. Recently we formed a band. The idea is that they can play at weddings and earn some money for themselves. We’ve also started a dance class now.”

Brigitte is a trained social worker, and while exploring the local villages she discovered a number of handicapped children who simply sat in their houses all day with nothing to do. “So on three days a week we take them to the Art School to give them some education and teach them skills.”

Martuvam Healing Forest and the Art School are clearly flourishing. But all of this costs money. Who is funding them? “The financial help comes mainly through Ivar’s trust,” says Sivaraj. “However, we have plans to become self-sufficient. For example, the Art School also provides skills training to women from the surrounding villages. They learn to make bedcovers and bags which are sold through our business ‘Mother India’. This gives them some financial independence. In the future, we hope it will finance a part of the various projects of Martuvam Healing Forest.”

The other source of income is the massage and healing oils which Sivaraj distills in the community kitchen. “We have another three acres of land across the road where we are cultivating herbs for making oils: I’ve already planted five hundred species. We sell the oils to Aurovilians and visitors at a reasonable price so we can provide them to the local people cheaply. In addition to my connections

with *siddha* healers in India I’m a member of an international healing organization based in the U.S. Once a year they send their healers here to give workshops to the local people. So far 50 people have attended the trainings.” Sivaraj points at an incomplete construction by the community dining kitchen. “This will be the Healing Centre. There will be spaces for massage and workshops.”

Meanwhile the well-established herbal garden continues to attract visitors. “We even get medical students,” says Sivaraj, “because now conventional doctors in India have to learn about traditional medicines. But our most important visitors are the local people. In this area most people have common complaints, like coughs, colds and headaches. These can be treated with plants like *Coleus aromaticus*. This grows like a weed around here but nobody knows what it’s useful for. So I explain how it can be used and tell the local people to grow it in their gardens. I also recommend they grow lemon-grass, which cleans and cools the body. In this way, even if they only have a small garden, they can be their own doctor. There’s only one problem: the cows tend to eat up their plants. So now the villagers bring me herbal plants to grow in this garden instead.”

“The relation with the village is very good now,” confirms Sivaraj, “everybody is supporting us. In fact, our main focus has always been the local people. As I was born nearby, I know how difficult the lives are of those who live in this colony: they are the poorest and most disadvantaged. That’s why, in addition to the healing, skill-training and educational activities, we provide space for the children to play and every morning we provide free herbal tea at our tea-stall. We only ask our customers to collect any plastic they find on the road and bring it to us. Then we send it to the Auroville Ecoservice site.”

“It’s very important for us to build this relation between Auroville and the village because they don’t understand why Auroville is here. We have to build a bridge with kindness and love. Music is one way, because when they play or listen to music they are happy. Healing is another bridge. This is why we call the project ‘Martuvam’ (Tamil for ‘healing’) because everything we do here is connected in some way with healing.”

Sivaraj finishes his tea and gets up. “Time for watering.” On his own? Sivaraj laughs. “Yes, I look after this whole garden. We have a gardener but I do a lot of the watering, pruning and planting. I enjoy it, this is karma yoga, this is why we’re here. I have always felt Mother’s force here and we have to move with that. But now we’d like to make the next step in our healing activities so it’s important that people come and help. Nobody knows about us in Auroville so I invite people to visit. Healers can work with us and I also need people who can help with administration. There’s so much to do here, but it’s wonderful work.”

And, without a doubt, he’s a very inspiring person to work with.

From an interview by Alan

For more information see: www.martuvam.org or contact sivaraj@auroville.org

Preparing the Cactus Garden

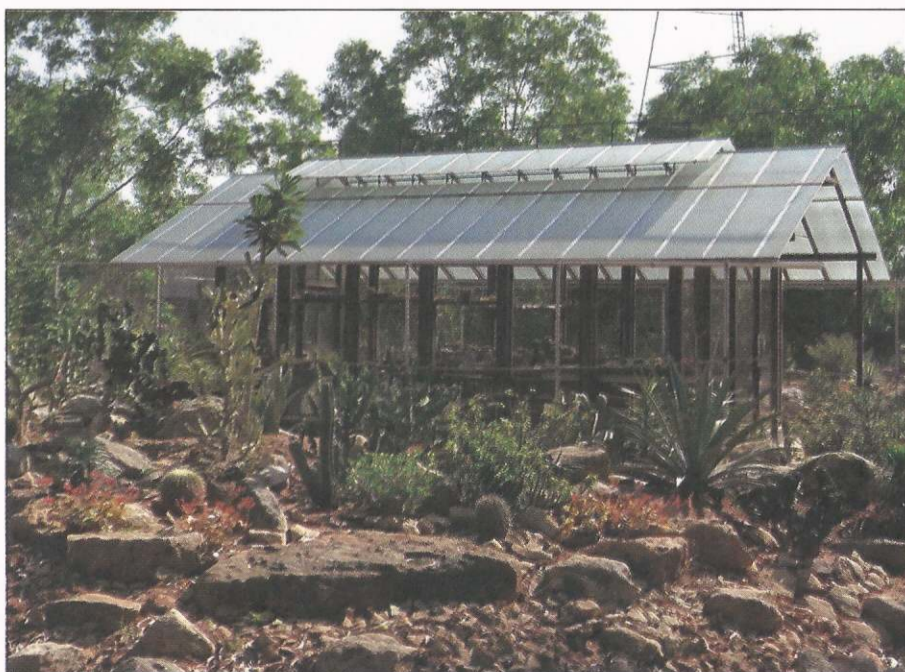
Volkher has been passionate about cacti since he was a little boy in Germany. “I remember after the war looking into people’s front windows and seeing pots of strange-looking prickly things and I was fascinated by them. I came to Auroville in 1997 and worked at the Matrimandir Gardens for a few years, which I enjoyed thoroughly. I gradually developed a cactus garden on my balcony in Vikas Community, but last year it was not large enough to contain them all so Paul offered me a half acre site at the Botanical Gardens. He had been planning to put a cactus garden there for a few years so it suited both of us fine.”

Volkher leads me through the Botanical Gardens to a quiet area at the back. “I am now landscaping the area with Marie from Matrimandir Gardens and have already had 50 truckloads of earth and sand. Selvam and his crew come from the Matrimandir Gardens to dig and excavate at the weekends. We want to make it an attractive area for visitors as now it is tucked away and rather difficult to find. One day we would like to have a keel-roofed pavilion where visitors can sit and look at books.” Volkher points to a high wall twenty five metres away from behind which comes the roar of machinery. “An estate is being built there so that is the end of peace and quiet

for the cactus.”

I follow him into the cactus greenhouse. “A greenhouse in this tropical climate?” I ask, wiping the sweat from my brow. “This is special glass with mesh woven into it,” he explains, “so it allows for good ventilation and protects the plants from rats, squirrels and thieves. It also scatters the sun’s rays so we can grow sun-lovers and semi-shade plants together without using a net on top. Look at this one,” he says, pointing lovingly to a three-metre high, spindly, bright-green cactus. “I brought it from the Matrimandir nursery. This variety will only flower after 30 years.” “How do you know its age now?” I ask. “I don’t,” he replies. “They are classified by their flowers so in this one’s case, it is a little awkward. I just have to be patient.”

“One of the joys of the cactus species,” Volkher explains, “is that many of them are so small it is relatively easy to form a cactus collection. And they all have very different characteristics and habits. One prerequisite for growing cacti successfully is knowing their habitat of origin; otherwise there is a lot of trial and error. Most cacti like strong temperature differences between day and night and we have



The cactus greenhouse in the Botanical Garden

found many cannot cope with our hot and humid climate. We cannot create a winter resting period for them, so often there is a limited development of buds.

“I water them once a week in summer and once a month in winter, so they do not take much maintenance. In our last long monsoon many developed a fungus. I have found that a liquid made

from liquid soap and tobacco water is the simplest remedy. We are constantly on guard against termites which eat the spikes under the cover of the red dust they pile around it. That is the first job of the day for my assistant Shivakala, who also checks for snakes which get caught in the hooked spikes of one particular spiny cactus.”

Looking around the tables and shelves of cacti I am amazed that every cactus seems to be different from its neighbour, many startlingly so. Some are thin and spindly, others round or square and some are like squashed cushions. Miniature ones are as small as a thumbnail and others are tall, stooped, sculptural or straggly. Some look solitary and others obviously like company as they are festooned with small miniatures of themselves. Yet others are prickly and spiky, or fuzzy, almost furry, and you want to stroke them.

“The Sri Aurobindo Ashram has an excellent collection and we do a lot of exchanges and support each other,” says Volkher. “It is not yet really a passion in India and most cacti are still found in Botanical Gardens.”

Volkher continues with his most pressing problem. “I desperately need someone who has a passion for these little creatures. I am willing to train someone if they show enthusiasm, but so far no one has come forward. People assure me that Mother will send the right person eventually so I must trust in that.”

Dianna

A bamboo-reinforced solar house

Alok's house uses solar panels and a solar thermal collector; it has a rainwater harvesting system and its wastewater is recycled. But what makes the house truly unique is its low construction cost and small environmental footprint.

This house sits on the ground like a ship floats on the ocean," says Alok Mallick proudly, showing Auroville's first bamboo and coir-reinforced mud house that is entirely powered by the sun, and yet it looks quite similar to any other house in Auroville. He smiles, "the difference is within!"

"I wanted to build a house that would be more sustainable than our standard houses, yet give a similar 'feel'," he says. "It had to be built with locally-available materials and the carbon footprint should be as low as possible. I developed a technique using mud, coir, and in some places also concrete, around a bamboo grid, which carries the tensile loads. These grids are inside all the floors and walls and are invisible from the outside. This also made it

possible to do away with the need for a dug foundation and use of construction steel."

For the ceilings and roof, bamboo-reinforced concrete was used. To measure the strength of the bamboo for its ability to bear tensile loads, Alok sampled local varieties of bamboo on a machine that tests the relation between stress and strain of materials. "I then did my calculations, using a safety factor of 50% of the average load, to determine the amount of bamboo that would be necessary in different structures." Did he chemically treat the bamboo before encapsulating it in cement or mud? "There is no need," he replies. "The mud and the coir along with the cement plaster almost hermetically seal the bamboo. A well-laid concrete flooring will prevent termites from burrowing bottom up. But as termites can burrow through cement plaster and mud, we plan to create a moat around the house to prevent them from accessing the walls from the sides."

The fibres of the coconut coir used in the mud, explains Alok, take the tensile loads within the mud, just like fibreglass would do. "For every 10 kg of mud we used about 1 kg of coir. The fibres that stuck out of the wall helped to bind the cement plaster." The walls, which are 45 centimetres thick, provide good thermal insulation. "Mud also has a very low thermal mass," explains Alok. "The house is very cool in summer."

The entire house took about four months to build. "The ground floor took one month as the workers had to be trained," says Alok. "After that, it all went pretty quickly. We got ready-made doors and windows from Pondy, which saved time."

Today, after two years of intense monsoons and hot summers, the house is in an excellent condition. "The walls and ceilings have no cracks, and there is no sign of any termite invasion," says Alok. "On hindsight, I could have cast the ceiling in mud instead of concrete, using bamboo matting as shuttering, and I could also have used mud or lime to plaster the walls. That would have reduced the footprint even more, but at the time I was having some financial and time constraints and I couldn't afford

to experiment further."

Asked if the bamboo from India's north-eastern states wouldn't have been better, Alok replies negatively. "The bamboo grown in Meghalaya, Tripura and Assam is of superior quality, but we do not really need that quality for our purpose. Moreover, if we transported that bamboo here, it would increase the carbon footprint. The bamboo I've used grows within 50 miles of Auroville, so its carbon footprint is low." And what if bamboo did not grow around here? "Then I would have studied the possibilities of using some other material, such as young Work or Casuarina tree," says Alok.

As it is, the construction cost of the house is less than Rs 7,000 a square metre. "That compares pretty well to the Rs 15,000 or more per square metre which is today's average in Auroville," says Alok. "Even if you add an additional 20% to cover the costs of an architect and contractor, it is still cheaper."

Auroville architects have not yet flocked to



The bamboo grids for the walls stick out from the concreted floor

admire the construction but some architects and students from outside have. "I think that I have proven that we can build eco-friendly houses with a low carbon footprint that are also more cost-effective than what's considered 'normal' today without, in any way, affecting the creative expression of the architect," says Alok. "At a time when everyone complains about the housing crisis, I hope this example will be followed."

In conversation with Carel

For further information contact Alok at alokm@auroville.org.in



The bamboo grid for the first floor

possible to do away with the need for a dug foundation and use of construction steel."

The house is just 'sitting' on the earth. A 20 x 20 centimetre bamboo reinforcement grid, made of locally-grown bamboo, on average 2-3 centimetres thick and 3-4 metres long, was laid on the flattened earth and then immersed in concrete. Similar bamboo grids were used in each of the load-bearing walls, which were then packed with mud mixed with coconut coir fibres. The walls were finally plastered with a thin layer of cement on both sides.



The house under construction: mud mixed with coir is applied to the bamboo; the walls are then cement-plastered

NUTRITION RESEARCH

Auroville's first raw vegan food restaurant opens

Anandi manages the Kottakarai Organic Food Processing Unit (KOFPU) which sells its produce both within and outside Auroville. On 21st February, Anandi's new venture, Satchitananda, Auroville's first raw food restaurant, was inaugurated next door.

I've always been interested in food and what lies behind it. My grandmother and aunt taught me at a young age that food is the essence of everybody's body and that it has to be very pure to have a nice energy. I learned that even before you eat food you should be in the right mental and emotional state, so I learned the rituals, like chanting in the early morning and making *kolams* and invocations before I sat down to breakfast, in addition to the nice habit of offering the food before eating.

Subsequently, my karmic line led me to study food and nutrition at college and then, in 1997, to help set up KOFPU as a programme of Village Action. KOFPU processes organic food in fairly conventional ways: through cooking, for example. But in the same year I met a Canadian visitor who only ate raw food and who asked me to prepare some dishes for him. I was very ignorant about raw food in those days, it's not part of my culture, but I got in touch with my intuition and made many salads and combined slices of different vegetables with our coconut and mint chutneys. He was very excited by this. Then I decided for one week to eat only raw food with him. This experience left an imprint on me.

A few years later, I met a Swedish lady who was also interested in raw food. She suggested the two of us should go to study it further at The Tree of Life Rejuvenation Center in Arizona, but then she left, I had no means of contacting her, and nothing happened for a couple more years.

In January 2007, I decided to get more information about this Center and I looked it up on the Internet. The moment I saw a photograph of Dr. Gabriel Cousins, the founder of the Center, I wanted to meet him: I felt we had some work to do together. I wanted to do the ten week spiritual nutrition apprenticeship programme, but the course was very expensive. However, I sent off my resumé, describing my background in food and nutrition and explaining that I wanted to learn

more about raw food so I could bring the knowledge back here and spread it. They immediately offered me a full scholarship.

One of the preconditions for participating in the programme was that you should already be eating only raw food. In this way your body does not get the shock of a big detoxification which frequently happens when you switch to a raw food diet; as the clogged things in the body are dissolved, this may manifest as diarrhoea, fever or a cold.

So before I attended the course I had already adopted a raw food diet, but the course taught me



A selection of live food dishes

much more at an experiential level. Among other things, it deeply convinced me that a raw food diet is very beneficial to one's health. It was a big revelation to learn how many illnesses come from cooked food, and that cooked food is 'dead' food because by heating the food we lose 50% - 80% of the nutrients.

Eating raw or 'live' food, as we prefer to call it, allows the body to take up the nutrients very readily. This means that you don't need to eat a lot to feel satisfied. And a live food vegan diet, which is the one I adopted, is a very complete diet if the food is eaten in the correct 'rotation'; in other words, if the food is combined in such a way as to provide all the essential nutrients. The only thing lacking in this diet is vitamin B12 which has to be obtained separately.

Live food activates everything. All your senses become sharper, more refined, your digestion and elimination improve, you have more energy and feel light and agile, you need less sleep and your hair grows better as the food is so rich in minerals: eating it has accelerated many things in me, both emotional and mental. Cholesterol is not a problem with live food because only when you heat food do the fatty acids clog up the body. I also learned in Arizona how the natural colours of fruits and vegetables indicate the presence of phytonutrients as well as attracting people to the food - 'eating begins with the eyes'. This is why colour plays a key role in the preparation of live food.

Of course, the American vegetables are very different from those we can get here, and we can't get the organic fruit which is such a big part of their live food diet. So I had to re-programme my mind to discover the live food treasures of India. Now I don't miss American food at all: I've even made up my own recipe book for Indian live foods. Salads and juices are, of course, a staple, but you can use almost all vegetables to make soups, although the best ones have high water content, like squashes and tomatoes. We eat lots of greens and sprouts, delicious crackers can be made from flaxseed, and cheese from sunflower or almond seeds. Being vegan we do not use animal milk, but ice cream can be made using nut milk or coconut milk. All this and much more - including Indian dishes, I want Indians to come to this restaurant - will be available at the newly-opened restaurant.

In America my exposure to live foods was so deep that I knew I had to share and spread the benefits to all. I decided I wanted to build Auroville's first Live Food Centre and began to raise funds. Many generous hearts responded to my call and thanks to The Divine - who has always guided me - and these lovely people the restaurant was inaugurated on 21st February, 2011.



Anandi

For a long time I'd seen three types of activities I wanted to organize around live food. The first one is the restaurant, which will provide live food lunches and dinners. Secondly, I will give courses in live food preparation. The courses will be both theory and practice: the practice will be working in our restaurant. I have built a students' dormitory and will offer residential courses of up to three months.

The third activity is health retreats. Eating live food is a very good way of reducing weight in a pleasant manner, and Dr. Cousins has also proved that this diet can reverse diabetes. So I will create package programmes for those who would like to experience the health benefits of live food which could include yoga classes, visiting the Matrimandir and working in an organic farm.

The new restaurant is really an adventure: I have never run a restaurant before. I called it *Satchitananda* because I thought a live food diet would provide easy steps on the way to pure Existence, Consciousness and Bliss!"

From an interview by Alan.

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From pain to paint

The 30th January 2011 was World Leprosy Day. On February 28th an exhibition "From pain to paint" opened at Kalakendra Gallery, showing art created by people suffering from leprosy who live in a leper colony near Chengelpet, .

A unique exhibition of 50 paintings created by 24 people from a leper colony village near Chengelpet, a town about 60 kilometres south of Chennai, was hosted by Kalakendra. The pictures were vivid and colourful and in their stark simplicity reminded one of aboriginal paintings or highly-coloured Grandma Moses pictures.

"Lepers still experience much prejudice and social isolation," says Werner Dornik who established the Bindu Art School seven years ago. "These people were forced to beg and were considered the lowest of the low. Leprosy is also a social stigma and, though it is now curable, the stigma still lingers.

"I came to India as a young man on the hippy trail," continues Werner, "and remember being overcome by pity when I saw my first lepers. Most of them had been thrown out of their families and villages because of their illness. When I heard it only took 8 euros for a cure I impetuously gave them all my money and had to return to Germany. But I knew that one day I would be back. When I did return seven years ago I

realized I had nothing to offer them except my training as an artist. I decided to teach them to draw and paint. In the first few weeks only a couple of people volunteered – they were very shy, and many had no fin-

chosed the name *Bindu* as in the Indian tradition the Bindu spot, the still small centre, symbolizes the origin from which all grows and develops."

Werner explains the present arrangement of Bindu Art School.

"The students now range in age from 20 to 84 years and most are illiterate. Some are from different religious traditions. Each day they begin their class with meditation. They draw on their own intense life experiences and use their unique personal qualities to express themselves. The immediate, innocent and spontaneous nature of their art work is both touching and witty at the same time. The simplicity of ideas and the use of space and texture are tinged with the inner beauty of each student.

"The students support similarly-affected individuals from their income, and in turn, teach them what they themselves have learned. For leprosy-affected people, this unique process is far removed from a charity based approach. They are treated with respect and dignity, indeed their lives are resurrected. They have cre-



The first phase of a work has been finished

gers and very bad eyesight, or often only one eye. I had to learn patience, however, and after a few weeks, then months, more people joined in. I started them with black and white poster paint, then over the weeks slowly added blue, then yellow. They now use all the colours and have developed their confidence and unique styles."

"This is 'Real Art from the Heart,' says Werner passionately. "These people have suffered so much

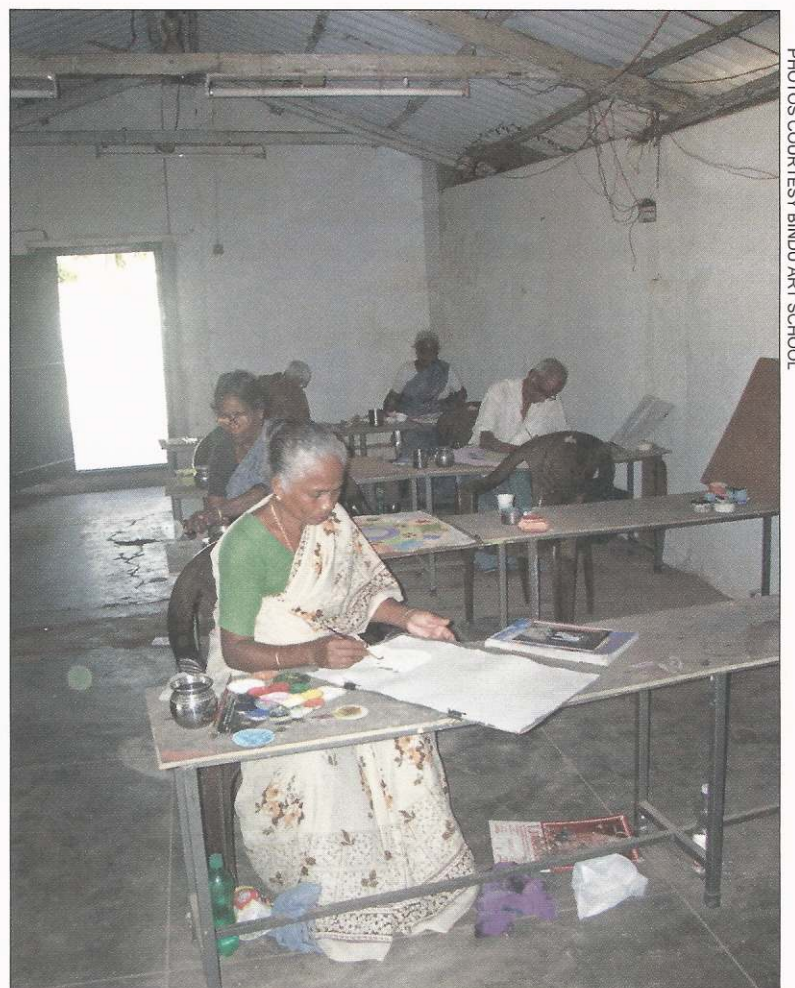
pain and they are able to overcome it with their pictures of uninhibited pure shapes and colours. They also have remarkable concentration and visitors comment on the atmosphere of peace and calm here. I try to resist guiding them too much and limit myself to making small suggestions. After all, these people have never seen a picture, never mind held a pencil or brush. They especially love doing large Bindu paintings, circles of patterns and shapes around a focal Bindu point. This takes them a week of work. I



Busy with painting the second circle

ated a new family and livelihood and have discovered the hidden talents within themselves.

"They have had several shows in the big Indian cities and sometimes sell very well. Last year we took four of them to Austria, my home country, and then to Paris for the opening of their show. You can imagine their pride when they see someone admiring and buying their picture. Their personal charm and innocence affects



The shed where the leprosy-affected people are working

people, especially Indians who have been brought up to despise them. "We never knew these people had it in them," said a gallery owner in Mumbai. "They have always been 'underdogs'. I am ashamed that a foreigner had to show me what they are capable of."

"The school is obviously a life time project for me," explains Werner. "I now spend about four months here and have trained two people to organize the work and do the accounts in my absence. I am trying to set up shows for them in other countries but do not believe in pushing them. Things have always come to them and I like it this way. My main goal is to reduce the terrible social stigma of these leper people and this seems a great way to do it. Bindu

Art School has provided to these people the most magnificent example of the therapeutic value of art and creative expression."

Dianna

For more info visit www.bindu-art.at



Proudly showing a finished product



Another finished product

GARDENS

The orchid garden

The Orchid Garden began in 1984 and is now tucked away in Matrimandir Nursery Garden. Orchids have a deserved reputation for being elegant and exotic yet I am told they are not difficult to grow if one understands and respects their needs. Unlike other plants, they do not get their nourishment from the soil but from the air which should be humid, warm, and preferably moving. They like being close together as this raises the humidity and they enjoy being above water. They prefer a "wet feel" but must never become soggy and they hate their leaves becoming wet. And they must never be allowed to dry out.

Shankar has been in charge of them for many years and was trained by Narad who started the Orchid Garden. He proudly shows visitors around.

Pots of beautiful trailing flowers are hanging

in rows under the trees. The flowers like the dappled light and it helps to keep them cool. Shankar points out one of the most popular species, *Dendrobium*, which is the easiest to grow and comes in many colours. Their flowering habit varies enormously. Some come into flower after several years then flower for a few days while others can flower for six weeks or even on and off throughout the year.

Shankar has experimented with different potting mediums over the years but always comes back to charcoal. Coconut husks become too wet, as do bricks, and bark rots after two years. With charcoal the burning process has killed any bacteria; it can be easily broken into small pieces and is cheap.

Like the Nursery, the Orchid Garden is undergoing financial difficulties and some people think it is cheaper to buy orchids from outside sources when needed instead of growing them in our own Nursery. Some are now sold to Aurovilians and outsiders for donations as the garden is trying to be



A blossoming orchid in the orchid garden

self-supporting.

Orchard growing can be expensive as it can take four years before a flower appears from seed and the hormone chemicals used for propagation are expensive. As with all plants, especially in the tropics, pests are a big problem. Shankar tells me that one traditional remedy is to spread cinnamon on a cut leaf which acts as an effective fungicide. They used to be grown by seed culture but that takes several years, so now a hormonal paste is painted on the stalk to encourage new growth.

Shankar says he used to have about 5,000 orchids but because of the intense care they require he has reduced the number to 3,000.

"For some reason Mother did not give names to many orchids, therefore only a few can be used in the Matrimandir gardens," added Tina. "When the new changes come in the Orchid Garden, they will probably move to a new home in the Botanical Garden."

Dianna

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